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LIMESTONE HILLS TRAINING AREA LAND WITHDRAWAL

FINAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

April 2008

Montana Army National Guard
Fort Harrison
P.O. Box 4789
Helena, MT 59604-4789

Butte Field Office
Bureau of Land Management
U. S. Department of the Interior
106 North Parkmont
Butte, MT 59701

1. The first part of the report is a summary of the work done during the year.

2. The second part is a detailed account of the work done during the year.

3. The third part is a summary of the work done during the year.

4. The fourth part is a summary of the work done during the year.

5. The fifth part is a summary of the work done during the year.

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CHAPTER 10
THEORY OF THE EARTH

10-1

The Earth is a sphere of approximately 12,756 km in diameter. It is composed of several layers, the innermost of which is the core. The core is divided into a solid inner core and a liquid outer core. The mantle lies between the core and the crust. The crust is the outermost layer of the Earth and is divided into the continental crust and the oceanic crust. The lithosphere is the rigid upper part of the mantle and the crust. The asthenosphere is the layer of the mantle below the lithosphere. The hydrosphere is the layer of water on the surface of the Earth. The atmosphere is the layer of gas surrounding the Earth.

10-2

The Earth's internal structure is determined by the distribution of mass and the physical properties of the materials. The core is composed of iron and nickel. The mantle is composed of silicate minerals. The crust is composed of silicate minerals and is the only layer of the Earth that is solid.

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EXECUTIVE SUMMARY

This summary briefly describes the preferred alternative and other alternatives, summarizes environmental consequences in the form of alternative comparison tables, and highlights the major conclusions of the environmental analysis. This summary also identifies unresolved or controversial issues, and describes mitigation measures. Only key findings covered in the Legislative Environmental Impact Statement (EIS) are presented in this summary.

INTRODUCTION

This EIS has been prepared in support of an application by the United States (U.S.) Department of the Army (the Army) to withdraw 18,644 acres of federal lands within the Limestone Hills Training Area (LHTA) from U.S. Department of the Interior, Bureau of Land Management (BLM) administration. The lands are critical to maintaining Montana Army National Guard (MTARNG) military readiness. The Army proposes that the Department of the Interior and Congress transfer administrative responsibility of all federal land within the LHTA to the Army as a land withdrawal for military training use by the MTARNG. This document was prepared by the MTARNG as lead agency with assistance and guidance from the BLM Butte Field Office as a cooperating agency.

The LHTA, located in Broadwater County near Townsend, Montana, has supported the military mission of the MTARNG since the 1950s (Figure S-1). In 1984, the BLM granted the MTARNG a 30-year right-of-way to use federal land within the LHTA for military purposes under specific terms and conditions. This right-of-way grant expires on March 26, 2014. To continue the military use of these public lands, the Army must apply to withdraw federal land in the LHTA in accordance with the Engle Act of 1958, which requires an Act of Congress for military withdrawals encompassing more than 5,000 acres. The LHTA is comprised primarily of public land administered by the BLM pursuant to the *Federal Land Policy and Management Act (FLPMA)* and other public land laws.

Safety is the primary reason for the proposed withdrawal. In the case of the LHTA, a land withdrawal is the BLM's only authorization option. BLM Instruction Memorandum No. 91-283 states that any land for which the military is likely to have unexploded ordnance (UXO), chemical munitions, or other similar hazardous materials, or where long-term exclusive use of the land is required for public safety or national security reasons, may be authorized for use only by public land withdrawal. Portions of the LHTA have been used for live-fire weapons training resulting in a risk of encountering UXO throughout the training area. Unexploded ordnance is present in the LHTA due to ordnance failing to detonate fully upon impact after being fired during training exercises.

The MTARNG administers, trains, and deploys soldiers. The LHTA is used for military training by units from the MTARNG, other military services and allied nations. These units are organized, trained, and equipped to respond to Montana and national emergencies, and for overseas deployment.

THE LATEST IN THE ARTS

The first of the three new books is a collection of essays by a group of leading American writers, including William S. Burroughs, John Updike, and others. The second is a collection of essays by a group of leading American writers, including William S. Burroughs, John Updike, and others. The third is a collection of essays by a group of leading American writers, including William S. Burroughs, John Updike, and others.

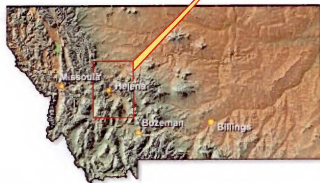
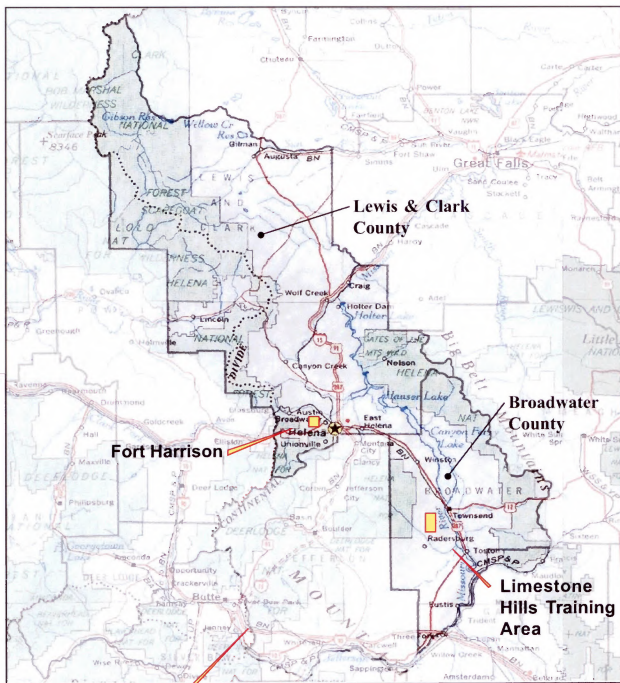
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Tetra Tech

LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

**FIGURE S-1
MONTANA ARMY NATIONAL GUARD
SITE LOCATION MAP**



PURPOSE AND NEED

The purpose of the proposed land withdrawal is to enable the MTARNG and the Army to meet their military mission for 25 years into the future and to minimize hazards to the public and military land users on the LHTA.

MTARNG Military Mission

The MTARNG is one of 54 national guards that exist in 50 states, 3 territories, and the District of Columbia. The Governor of Montana is the Commander in Chief for the MTARNG. The Adjutant General is the officer in charge of the MTARNG and is answerable to the Governor for the training and readiness of the units. As for all state national guards, the Governor reserves the ability to call up members of the National Guard in time of domestic emergencies or need.

The overall mission of the MTARNG is to train and equip soldiers to meet readiness standards and conduct wartime and peacetime missions; to provide a "citizen-soldier" military model for the Partnership for Peace Program with Kyrgyzstan; to provide ready forces for state missions; and to participate in community activities that add value to Montana. The MTARNG mission includes responding to wildfires and helping communities in Montana and other states, if requested. In times of civil unrest, the MTARNG is also ready to respond, if needed.

The MTARNG maintains 30 armories and is present in 23 communities. The major commands of the MTARNG are:

- Joint Forces Headquarters
- 95th Troop Command
- Garrison Command
- Rapid Engineer Deployable Heavy Operational Repair Squadron (REDHORSE)

Importance of the Limestone Hills Training Area to the Military Mission

Military power is composed of a wide range of elements, the most central of which includes the quality of personnel, training, equipment, infrastructure, maintenance, and logistic capability. The LHTA provides a challenging, realistic training environment necessary for retaining quality soldiers by providing world-class training at both the individual and unit level. Realistic training that fully engages military capabilities is the primary means to ensure readiness and prepare our military to fight and win in combat. This training is central to the way the U.S. armed services fight.

Effective training consists of a careful progression of exercises directed at individuals, crews, and units. All training exercises are fully evaluated to provide feedback and lessons learned for the development of future tactics and doctrine. Whether training is conducted at the individual level or as a full-scale field exercise, realistic training is critical to maintaining military proficiency. To be effective, a training range

must provide sufficient land to conduct training at realistic distances. Access to a variety of conditions (for example, simulated threats, operational space, topographic relief, and safety constraints) and scheduling availability are also important characteristics for a training range. Existing ranges are used to the greatest extent possible, while sustaining the land and its resources. MTARNG forces require training areas the size and configuration of the LHTA to prepare soldiers realistically and units for known and emerging threats to our nation and its interests; and to test and refine innovative concepts and new strategies to deter, compel, and if required, fight and win.

The primary mission of the LHTA is to train soldiers of the MTARNG and other units. The LHTA provides the following training needs:

- a training area for National Guard and Reserve Forces;
- a training area, when needed, for active component forces including U.S. Army, U.S. Air Force, U.S. Marine Corps, and U.S. Navy;
- assistance for logistical support to units conducting inactive duty training and annual training;
- a venue for the inactive duty training gunnery program to meet operating requirements;
- small arms and crew-served weapons qualification ranges and facilities;
- maneuver areas suitable for training infantry and other personnel in conducting dismounted exercises;
- organizational support maintenance facilities for units conducting training; and
- training areas and facilities to local law enforcement agencies, civil defense organizations, public education institutions, and other civilian activities as long as no interference occurs with existing military training activities.

LAND WITHDRAWAL PROCESS

Withdrawal means “(1) withholding an area of federal land from settlement, sale, location or entry, under some or all of the general land laws, for the purpose of limiting activity under those laws in order to maintain other public values in the area or reserving an area for a particular public purpose or program; and/or (2) transferring jurisdiction over an area of federal land, other than property governed by the *Federal Property and Administrative Services Act*, as amended (40 U.S. Code 472) from one department, bureau or agency to another department, bureau or agency” (FLPMA, section 103[j]). In the case of the proposed LHTA withdrawal, both definitions of withdrawal apply, and the transfer of jurisdiction over federal land is from the BLM to the Army. The process for effecting the proposed land withdrawal requires a synchronized effort on the part of several agencies within the Departments of the Army and Interior.

Upon completion of the Legislative EIS and receipt of a complete withdrawal application from the U.S. Army Corps of Engineers, the BLM Montana State Director would submit findings and recommendations to the BLM Director and the Secretary of the Interior. The BLM, in coordination with the Army, would draft the proposed legislation and is responsible for including all appropriate aspects of jurisdiction and natural resource management for the proposed military reservation based on the Finding and Recommendation Report. The Secretary of the Interior would submit a legislative recommendation to Congress (after receiving Office of Management and Budget clearance). Neither the BLM nor the Department of the Interior has the authority to approve or deny a military application for a legislative withdrawal; only Congress has that authority under Code of Federal Regulations 43 2310.3-2[f].

SCOPE OF THE LEGISLATIVE EIS

This EIS evaluates the MTARNG proposed action to secure a military maneuver training center and three alternatives to the proposed action. This document provides Congress with information to make environmentally informed decisions regarding the LHTA land withdrawal. To the degree possible given existing data, it qualitatively and quantitatively evaluates potential environmental impacts of implementing the alternatives. Because this action is a proposal for legislation, the Army and the BLM have mutually agreed to use the Legislative EIS process pursuant to 40 CFR 1506.8 to comply with the requirements of the *Federal Land Policy and Management Act* and the *National Environmental Policy Act* (NEPA). This EIS is being prepared in cooperation with the BLM and local government. Therefore, pursuant to the Legislative EIS process, the Army will prepare a final EIS and a Notice of Availability of the EIS will be published in the *Federal Register*. However, there will not be a Record of Decision, because the decision to grant or deny the withdrawal is made by the U.S. Congress and, if granted, signed into law by the President of the United States.

Alternatives to the proposed action were developed based on comments received during the scoping process. Alternative 1 (the proposed action) describes MTARNG's initial proposal for continued use of the LHTA by means of a military land withdrawal. Alternatives 2 and 3 were developed in response to concerns and suggestions raised by the public and government agencies during scoping. These alternatives address different options for management of surface use of the withdrawn lands. The no action alternative is the cessation of military use of the LHTA sometime on or before March 26, 2014 following expiration of the current right-of-way agreement with the BLM. With the exception of the no-action alternative, the boundaries and size of the proposed withdrawal area are common to all alternatives (Figure S-2). The MTARNG and the BLM have selected Alternative 3 as the preferred alternative. Alternative 3 is described below. All alternatives are briefly described in tables at the end of this executive summary.

PREFERRED ALTERNATIVE (ALTERNATIVE 3)

Alternative 3 represents the initial proposal by the MTARNG to withdraw the LHTA from BLM jurisdiction with modifications based on scoping comments and stakeholder recommendations. The proposed withdrawal area is comprised of approximately 18,644 acres of federal land that encloses 2,666 additional acres of state-owned and private land for a total of about 21,310 acres within the outer withdrawal boundary. Figure S-2 shows the existing LHTA boundary and proposed withdrawal boundary. Land proposed for withdrawal is limited to BLM-administered land within the withdrawal boundary. It does not include private or state-owned land.

A portion of the withdrawal area would continue to be closed to any access unless under an escort approved by the MTARNG. This portion includes all land located west of Old Woman's Grave Road, west of Green Route Road, and north of the Crow Creek Access Road, and is referred to in this document as the "closure area." The remaining portion of the withdrawal area would continue to be open for public access and is referred to as the "nonclosure area."

MILITARY USE

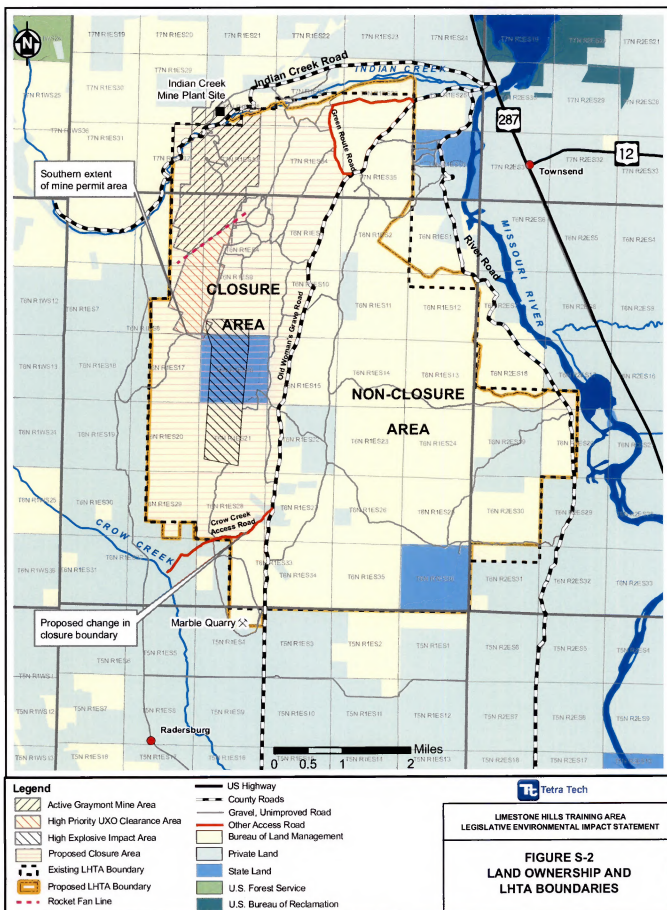
Military units expected to use the LHTA would be the same as those that have trained in the past. The primary users of training areas at the LHTA would be MTARNG mechanized infantry, aviation, and cavalry units. In addition, the LHTA would be used occasionally by a variety of organizations that schedule use through MTARNG personnel at the Fort Harrison Training Center.

Training activities at the LHTA would continue to take place primarily on one or more of 17 designated live-fire training ranges and a dismounted training area that currently exist at the LHTA. Any new ranges proposed for the LHTA would require a NEPA evaluation. Ranges at the LHTA are defined by the type of gunnery and/or vehicle used during training, the location of the range, and the training range mission.

As currently required, all personnel who participate in training exercises would adhere to preset direction and conditions for training described in range-specific manuals. Live fire exercises would continue to take place throughout the LHTA. Mortar target practice would be limited to the area shown as the high explosive active impact area on Figure S-2.

No new facilities are proposed. Potential impacts from any modifications proposed by the MTARNG and not anticipated in this EIS would be evaluated in a future NEPA analysis. The proposed military use of the LHTA would be the same as the existing use with the exception of modifications designed to modernize ranges and support units adequately for combat. These modifications would most likely be:

- reduced use of tracked vehicles and increased use of lighter vehicles,
- improved technologies such as the use of simulations such as lasers instead of live fire, and
- reduced size and changes in the shape of surface danger zones.



NON MILITARY LAND USE AND RESOURCE MANAGEMENT

With the exception of minerals and wildlife (see Table S-1), management of nonmilitary uses and resources on federal land at the LHTA would be conducted by the MTARNG. Activities managed by the MTARNG, on behalf of the Army, would include: public and agency access, travel management, real estate transactions, recreation, weed control, fire management, grazing permits, and right-of-way permits. Proposed responsibilities for uses and activities on the LHTA under the preferred alternative are summarized and compared with other alternatives in Table S-1.

Recreation

Under the preferred alternative, the MTARNG would adopt and implement all policies and restrictions described in the BLM *Elkhorns Travel Management Plan* as it applies to the LHTA. The area shown as the Closure Area in Figure S-2 would remain closed to recreational activities. Crow Creek Access Road and approximately 388 additional acres would be opened for use by the general public. Recreation, road travel, and utility corridors in permitted rights-of-way would continue to be allowed in the non-closure area.

Grazing

Under the preferred alternative, management responsibility of the use of the LHTA for grazing would shift from the BLM to the MTARNG. The MTARNG would allow permit grazing under existing permit conditions until the end of the permit period. After that time, the MTARNG would authorize grazing to existing permit holders under existing permit conditions for 20-year intervals.

Rights-of-Way

Under the preferred alternative, the MTARNG would be responsible for managing and permitting all new rights-of-way. Recreation, road travel, and utility corridors in permitted rights-of-way would continue to be allowed in the non-closure area.

Mining and Mineral Rights

Under the preferred alternative, the BLM would continue to manage mineral rights in the LHTA. All mineral rights associated with mining claims authorized by the *General Mining Law* and administered by BLM in the LHTA, which are determined by the MTARNG to have no significant impact to military use or mission in the LHTA, would remain in effect after the withdrawal legislation is enacted. Although the Army could exercise its authority through the U.S. Army Corps of Engineers to acquire mineral rights determined to be in conflict with the current military mission, under the preferred Alternative, the MTARNG has already determined areas of conflict between the military land use or mission and civilian activities on private or BLM land. Under the preferred alternative, mining would be prohibited only on mining claims currently designated as being in conflict with the MTARNG mission (red claims on figures 2-5a and 2-5b). Except for these areas (red claims) mining activities consistent with existing mission range requirements would be allowed throughout the remainder of the LHTA, pending clearance of UXO by the MTARNG, safe access and clearance determinations issued by the Department of Defense Explosives Safety Board, and approval of the activity by the BLM and/or the DEQ. New or amended

Mine Operating Permits approved by the DEQ and BLM would be allowed. No new mining claims would be allowed in the LHTA.

Resource Stewardship

Training restrictions for the purposes of ecosystem protection would continue to be imposed on all military activities at the LHTA. All military activities would be conducted in accordance with the *Soldier's Handbook for Environmental Protection* and all subsequent updates, Army regulations governing environmental protection and enhancement of military ranges, the MTARNG's *Integrated Natural Resource Management Plan* as updated, the *Sikes Act*, *Elkhorns Travel Management Plan* as updated, and the *National Guard Integrated Training Area Management Program*.

Under the preferred alternative, all resources, except for mineral resources and wildlife, at the LHTA would be managed by the MTARNG under the *Sikes Act* (U.S. Code Title 16, Sections 670a-670o), and in accordance with the most current version of the MTARNG *Integrated Natural Resources Management Plan* and *Integrated Cultural Resources Management Plan*. Mineral resources would continue to be managed by the BLM. If the preferred alternative were implemented, these plans would be revised to reflect the change in administration from the BLM to the MTARNG. Proposed management responsibilities are summarized and compared with other alternatives in Tables S-1 and S-2.

Inholdings (Private and State-Owned Land Located Within the Withdrawal Area)

Under the preferred alternative, the Army, through the U.S. Army Corps of Engineers, could acquire nonfederal land that conflicts with the military mission by purchase, donation, easement, or exchange. The Corps of Engineer's preferred method to acquire inholdings is by negotiated purchase.

UXO Clearance Activities

Under all action alternatives, current UXO hazard reduction activities within the Graymont Western US, Inc. (Graymont) mine permit boundary would continue at the approximate rate of 25 acres per year. Because clearance activities are dependent on funding and terrain, the rate of clearance is only an estimate based on past clearance rates. The MTARNG would continue to prioritize clearance activities so that UXO hazard would be removed in the mine permit area before anywhere else. The Army would also be responsible for assessment and clearance of UXO in all contaminated areas. BLM would provide Graymont with authorization to proceed with limestone mining in areas approved by the Department of Defense Explosive Safety Board as adequately cleared of UXO hazards. Authorization would be provided on a routine basis at a frequency of at least once per year as each portion of the permit area is cleared. UXO clearance elsewhere in the closure area would not occur.

Payments in Lieu of Taxes (PILT)

Under the preferred alternative, payments in lieu of taxes from the BLM for federal land within the LHTA would be discontinued because the land would no longer be under BLM jurisdiction and most natural resources and activities would be managed by another agency.

ALTERNATIVE 1 (PROPOSED ACTION)

Alternative 1 is similar to Alternative 3 in that most of the agency management responsibilities for resource management would shift from the BLM to the MTARNG. Alternative 1 differs from Alternative 3 in that the MTARNG resource management approach would be based more on *Sikes Act* requirements instead of BLM's standard management practices. Another major difference is that under Alternative 1, the Army could exercise its authority to condemn private land and acquire mineral and grazing rights determined to be in conflict with the military mission. Mineral rights associated with all mining claims authorized by the *General Mining Law* and administered by BLM in the LHTA, which are determined by the Army to have no significant impact to military use of the LHTA, would remain unchanged after the withdrawal legislation is enacted. However, the determination of specific mining claims in conflict with the military mission is only identified by the MTARNG in Alternatives 2 and 3 where it is limited to 94 claims. It may be that only these same claims will be identified by the US COE and DA for acquisition in Alternative 1, or alternatively the number of mining claims deemed in conflict in Alternative 1 could be greater, to the extent that all mining claims including those in areas of existing mining operations in the Limestone Training Area being acquired. No new claims or mining permits would be permitted in the LHTA. Differences between Alternatives 1 and 3 were developed as a result of recommendations made by stakeholders concerned about management of natural resources under the *Sikes Act*, land use of the LHTA, in particular grazing and mining, and how private land would be acquired.

ALTERNATIVE 2

Under Alternative 2, the MTARNG and BLM would share resource management responsibilities so that most resources in the closure area would be managed by the MTARNG, and most resources in the nonclosure area be managed by the BLM. The closure area is defined as the area closed to access without MTARNG-approval and includes all land located west of Old Woman's Grave Road, west of Route Green Road, and north of the Crow Creek Access Road (Figure S-2). The nonclosure area is defined as that area open to public access for surface use only, and includes all remaining public land within the withdrawal area. Alternatives are summarized and compared in Tables S-1 and S-2.

Table S-1
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Resource Management Activities	MTARNG would manage all resources in the LHTA except minerals and wildlife. (See Table S-2)	Resources would be managed under FLPMA & the <i>Sikes act</i> depending on the location of the resource as described in Table S-2.	Same as Alt 1	BLM would manage all resources in the LHTA except minerals and wildlife under FLPMA and the Field Office RMP (See Table S-2)
Land Use Activities	MTARNG would manage all uses of the LHTA with the exception of water rights and county roads (See Table S-2)	Land uses would be managed under FLPMA and the <i>Sikes Act</i> depending on the location of the resource (See Table S-2)	Same as Alt 1	BLM would manage all land use in the LHTA except water rights and county roads under FLPMA and the Field Office RMP (See Table S-2).
Agency Funding for management of LHTA	With the exception of minerals, all management activities would be funded by the MTARNG. BLM would be funded for management of minerals only.	MTARNG would be funded by NGB for resource management in the closure area. BLM would be funded by DOI for nonclosure area resource management	Same as Alt 1	BLM would be funded by DOI to manage the LHTA.
Tenure of MTARNG use of the LHTA	25 years after legislative approval. Extension of the withdrawal would trigger NEPA.	Same as Alt 1	Same as Alt 1	On or before March 26, 2014.

Table S-1 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Land Use Restrictions on the LHTA	The Army has the authority to terminate or prohibit any use of the LHTA	Existing legal non-military use of the LHTA could not be involuntarily terminated unless the use conflicts with safety precautions.	Same as Alt 2	Same as Alt 2 – After the ROW is terminated, any use consistent with the RMP is allowed. BLM would implement use restrictions for portions of the LHTA determined to be unsafe due to UXO.
Access	Access by the public, permit holders, or any agency is controlled by the MTARNG throughout the LHTA.	Same as Alt 1	Same as Alt 1	Access is controlled by BLM.
Grazing (laws & regulations)	Grazing would be managed by the MTARNG in accordance with the Sikes Act, and under Army requirements.	Grazing throughout the LHTA would be managed by BLM in accordance with FLPMA and the Butte Field Office RMP.	Same as Alt 1 with the grazing exceptions described below.	Same as Alt 2
Grazing allotments	Existing allotments would either remain as currently delineated or be eliminated entirely. No new allotments would be created.	All existing allotments in the LHTA would remain as currently permitted.	Same as Alt 2	Same as Alt 2
Grazing permittees	Possible termination of grazing permits after end of permit period. Possible permittee change based on highest bid.	All permits would remain the same.	Same as Alt 2	Same as Alt 2

Table S-1 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Grazing permit conditions & process	Possible continuation of existing grazing permits. Possible issuance of grazing permits on a highest bid basis. Safety briefings for grazers would be required.	Permit conditions and renewals would be managed as they have in the past under FLPMA and the Butte Field Office RMP.	Same as Alt 2 except: Leases would extend for 20-years.	Same as Alt 2
Safety briefings	Regularly scheduled UXO safety briefings would be required by MTARNG for grazers.	Safety briefings provided to grazers upon request.	Same as Alt 1	Same as Alt 2 until post-ROW
Grazing advisory group	A grazing-permittee advisory group for the purpose of coordinating land use with military activities and advising on permitting conditions would be sponsored by the MTARNG.	No advisory group limited specifically to grazing stakeholders would be sponsored.	Same as Alt 1	Same as Alt 2
Fencing High explosive active impact Area	Yes, if determined to be needed for site safety	Not unless requested by permittees	Same as Alt 2	No
Wildlife Habitat	Managed by the MTARNG in accordance with the INRMP	Managed by the BLM in the nonclosure area and by the MTARNG in the closure area (Table S-2)	Same as Alt 1	Managed by the BLM (Table S-2)
Meetings with FWP	Yes	Yes	Yes	Yes
Mining (Laws & regulations)	All mine operations and mine-claims would be managed by the BLM under the 1872 Mining Act and FLPMA.	Same as Alt 1	Same as Alt 1	Same as Alt 1

Table S-1 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Mining permits	All existing operating permits could be acquired. No new or amended operating permits would be allowed.	Existing operating permits would remain in effect. Future mine or mine expansion permits issued by the DEQ and BLM require review and approval by MTARNG	Same as Alt 2	Existing operating permits and all claims would remain in effect. Future mining and mine expansion permits would be issued by the DEQ and BLM.
Mining Claims	All or some of the following mining claims could be acquired: all mining claims, or claims not currently under an existing operating permit, or only those claims that could impact the military mission.	Claims that could impact the military mission could be acquired. Those claims would be limited to those identified in Appendix E and shown in red on Figures 2-5a and 2-5b.	Same as Alt 2	Existing claims would remain in effect. Claims staked in the future would be processed by the BLM in accordance with the RMP.
Cultural Resources	Managed under the MTARNG ICRMP and the Sikes Act	Managed by the BLM and the MTARNG (Table S-2)	Same as Alt 1	Managed by the BLM in accordance with FLPMA.
Rights of Way	Would be evaluated on an annual basis by the MTARNG for conflict with military mission and could be terminated.	Existing rights-of-way would remain in effect.	Same as Alt 2	Same as Alt 2
Rights of Way permit conditions	Would be permitted by the MTARNG, permit conditions could change.	Existing permit conditions would remain in effect.	Same as Alt 1	Same as Alt 2

Table S-1 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Inholdings	All private property within the LHTA could be acquired through outgranting, purchase or condemnation.	Private property owners having land within the LHTA would be given the options of selling their property, or selling easements for use by the MTARNG.	Same as Alt 2	Private property within the LHTA would not be considered for acquisition or use restriction by the federal government.
Boundaries	LHTA boundaries are adjusted to exclude 4 grazing allotments located at the east and southern boundary (Bald Hills, Missouri, Smith Individual, Riverside), and Indian Creek Road on the northwest boundary.	Same as Alt 1	Same as Alt 1	Same as Alt 1 until post-ROW. After ROW, LHTA boundaries would be eliminated and replaced with UXO risk level boundaries and access requirements appropriate to the risk level.
UXO-related activities	UXO clearance continues to be implemented by the MTARNG	Same as Alt 1	Same as Alt 1	Same as Alt 1 until post-ROW. UXO clearance would be implemented by the Army or other federal or state agency.

Table S-1 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Expected rate of UXO Clearance	25 acres per year depending on terrain and funding	Same as Alt 1	Same as Alt 1	Same as Alt 1 until post-ROW. After ROW, unknown rate of clearance. Funding priority for UXO surface sweep would be based on nationwide priorities.
UXO clearance priorities	Clearance priorities would be based on Graymont mine expansion plans.	Same as Alt 1	Same as Alt 1	Clearance priorities would be set by the BLM.
Compensation to County for loss of tax revenue	No Compensation	One time payment of \$400,000	One time payment of \$1,000,000	No Loss of PILT
BLM PILT	0 percent of current rate	60 percent of current rate	Same as Alt 1	Full Amount

Notes:

BLM	Bureau of Land Management
DEQ	Department of Environmental Quality
DOI	Department of the Interior
FLPMA	Federal Land Policy and Management Act
ICRMP	Integrated Cultural Resources Management Plan
INRMP	MTARNG Integrated Natural Resource Management Plan
LHTA	Limestone Hills Training Area
NGB	National Guard Bureau
PILT	Payment in Lieu of Taxes
RMP	BLM Butte Field Office Resource Management Plan
ROW	LHTA right-of-way grant
UXO	Unexploded ordnance

Table S-2
Alternative Summary – Agency Management Responsibilities
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity Land Use Management Responsibilities	Alternative 1	Alternative 2		Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)	
		Closure Area	Non-closure Area		Under ROW	Post ROW
Military Land Use	MTARNG	MTARNG	MTARNG	MTARNG	MTARNG	Not Applicable
Access	MTARNG	MTARNG	MTARNG	MTARNG	BLM	BLM
Recreation	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Real Estate	MTARNG	MTARNG	MTARNG	MTARNG	BLM	BLM
Rights-of-Way	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Water Rights	DNRC	DNRC	DNRC	DNRC	DNRC	DNRC
Mining	BLM	BLM	BLM	BLM	BLM	BLM
Weed Control	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Grazing	MTARNG	BLM	BLM	MTARNG	BLM	BLM
Fire Management	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Timber Management	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Wildlife Habitat	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Vegetation removal for UXO clearance	MTARNG	MTARNG	MTARNG	MTARNG	MTARNG	Army or other federal or state agency
Special Status Species	FWS	FWS	FWS	FWS	FWS	FWS
Minerals	BLM	BLM	BLM	BLM	BLM	BLM
Water	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Air Quality	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Wildlife	FWP/MTARNG	FWP/MTARNG	FWP/BLM	FWP/MTARNG	FWP/BLM	FWP/BLM
Vegetation	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Cultural Resources	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Non-county road maintenance	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
County road maintenance	Broadwater County	Not Applicable	Broadwater County	Broadwater County	Broadwater County	Broadwater County

Table S-2
Alternative Summary – Agency Management Responsibilities
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity Land Use Management Responsibilities	Alternative 1	Alternative 2		Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)	
		Closure Area	Non-closure Area		Under ROW	Post ROW
Waste Management	MTARNG	MTARNG	BLM	MTARNG	MTARNG	Army or other federal or state agency
MTARNG Facilities	MTARNG	MTARNG	MTARNG	MTARNG	MTARNG	BLM

Notes:

BLM	U.S. Bureau of Land Management
Army	U.S. Department of Army
DNRC	Montana Department of Natural Resources and Conservation
EOD	Explosive Ordnance Disposal
FWS	U.S. Fish and Wildlife Service
FWP	Montana Fish, Wildlife and Parks
LHTA	Limestone Hills Training Area
MTARNG	Montana Army National Guard
PILT	Payments (to Broadwater County) In Lieu of Taxes
ROW	Refers to the Right of Way granted by the BLM to the MTARNG for military training activities (Appendix A)
UXO	Unexploded Ordinance

ALTERNATIVE 4 — NO ACTION

Under Alternative 4, the MTARNG would continue to use the LHTA as it is currently used under the existing right-of-way grant until a date on or before March 26, 2014 when the MTARNG must cease any use or management of the LHTA. Under Alternative 4, the MTARNG would likely cease use of the LHTA before 2014, depending on the availability of funding.

Under current conditions, the MTARNG, on behalf of the Army, provides the BLM with recommended access precautions based on public safety. The MTARNG bases its safety determinations on decisions issued by the Department of Defense Safety Bureau and the MTARNG's knowledge of past and ongoing military use at the LHTA. After the MTARNG ceases use of the LHTA, the right-of-way grant with the BLM would be terminated. At that point, the UXO hazard risk characterization and UXO cleanup would likely become the shared responsibility of the Army and the State of Montana, and potentially the EPA. Because all or one of these agencies could use different criteria to determine UXO hazard risk, the level of public access to the LHTA after termination of the right-of-way agreement is unknown and potentially prohibited in the closure area. Alternatives are summarized and compared in Tables S-1 and S-2.

Environmental Consequences

Alternatives 1 and 4 (the proposed action and no action alternatives) would result in the largest number of adverse impacts. In addition, adverse impacts from the implementation of Alternatives 1 and 4 would have greater intensity and duration than those from implementation of Alternatives 2 and 3. Implementation of Alternatives 1 or 4 would result in major adverse impacts to mineral resources, land use, and social and economic resources and significantly adverse impacts to economic resources. A major adverse impact is one that would affect an activity to the extent that it would not take place or would be altered substantially when compared with existing conditions. A significant impact is one that will reduce the viability of, or eliminate, a resource. Alternative 1 could result in the loss of public access to the entire LHTA, acquisition of private land from unwilling sellers, and termination of grazing and mineral rights (claims), and mining activities in portions of, or all of the LHTA while the withdrawal was in effect. The no action alternative (Alternative 4) could result in the loss of an important military training area for the MTARNG and the Army with the concomitant loss of employment in Lewis and Clark County from reduced Guard activities. Both alternatives could result in eventual long-term loss of grazing privileges and of mineral exploration and development rights in the closure area, and loss of income to local governments and loss of employment opportunities from reduced or stopped mining activities.

Alternatives 2 and 3 were developed based on agency discussions with stakeholders. The stakeholder participation process and results are described in the LHTA Withdrawal Scoping Report. These alternatives were further refined after impacts assessment by the addition of mitigation measures developed by resource specialists to further reduce expected impacts. The main difference between Alternatives 2 and 3 is which agency (BLM or MTARNG) is responsible for resource management.

Stakeholder input resulted in the following modifications to the proposed action that were incorporated into Alternatives 2 and 3:

- The use of the LHTA for grazing, mining and recreation would be allowed to continue similarly to that of past practices, however, mineral rights in conflict with the current military mission, but limited to the 94 claims identified and in red on Figures 2-5a and 2-5b could be acquired, and
- Private landowners would not be required to sell property.

Mitigation measures developed after impacts assessment apply only to Alternatives 2 and 3 and therefore mitigate minor impacts. They are as follows:

- Developing agreements with water rights holders that would enable continued use of the water right if property is acquired by the Army
- A lump sum payment to Broadwater County to mitigate loss of county revenue from a reduction in BLM payments in lieu of taxes, and
- The MTARNG would subsidize a BLM purchase of private land to mitigate the change in status of the approximately 8,000-acre closure area from temporary to permanently closed to public use.

The main effects of each alternative analyzed are summarized and compared in Tables S-3 through S-7.

TABLE S-3
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I (Proposed Action)

Resource or Activity	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The MTARNG would assume all resource management responsibilities (with the exception of mineral resources). Resources would continue to be managed in accordance with state, federal and local laws and requirements. Priorities and specific management practices would be based on the LHTA Integrated Natural Resource and Cultural Resource Management Plans rather than the most current BLM Butte Field Office Resource Management Plan. This would not result in any appreciable change in management practices with the exceptions of grazing and land ownership (see below).
Cultural Resource Management	No effect	No changes in adherence to Federal and State requirements.
Military Use – Training and Safety	Beneficial	If all nonmilitary uses of the LHTA were terminated, use of the LHTA unhindered by the potential presence of other users would provide an improved training experience and improve safety conditions.
Military Use – Long-term availability	Beneficial	Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access	Major Adverse	Public access to the LHTA may be reduced or eliminated for some or all of the withdrawn land.
Grazing – Permit Retention	Beneficial	Competitive bidding for grazing permits would provide all users with equal opportunity to acquire a permit.
Grazing – Available Allotments	Adverse	Termination of grazing permits would adversely affect grazing opportunities.
Recreation (size of available area)	Adverse	Public access to the LHTA for recreation may be reduced or eliminated to some or all of the withdrawn land.
Recreation (status of closure area)	Adverse	Status of closure area would change from temporary to permanently closed to public access.
Recreation (hunting)	Adverse	Public access to the nonclosure area could be terminated.
Rights-of-Way	Adverse	Uncertainty about the tenure and conditions for existing holders of rights-of-ways and easements in the LHTA would increase.
Roads	No effect	This change in management may allow use of the Crow Creek Access Road currently closed year-around to use in the same manner as all federal land in the LHTA east of Old Woman's Grave Road; however, the use of Crow Creek Access Road could remain off limits to public use in the withdrawal area if the entire LHTA were closed to the public.
Property Ownership	Major Adverse	Private land owners in the LHTA may be required to sell their land to the Army.
Boundary Identification	Beneficial	Boundary identification between the closure/non-closure areas would be improved.

TABLE S-3 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I (Proposed Action)

Resource or Activity	Effect	Impact Description
Air Quality and Noise (BLM Critical Element)		
Air Quality	No effect	The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area.
Noise	No effect	MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Effect is same as existing conditions.
Geology, Minerals, and Paleontology		
Mine Claims	Major Adverse	All mining claims determined to impact Army mission could be acquired by the Army. Acquisition of mineral rights and claims would take the form of purchase, condemnation, donation, or exchange. The funding source for claim acquisition is unknown. Value would be based on COE appraisal.
Mine Expansion Permits	Major Adverse	No new mine operating permits or amendments to existing operating permits for mine expansion would be allowed to be issued within the LHTA.
Graymont Limestone Mining	Major Adverse	Graymont's current mine operations within the existing mine permit area would be expected to continue in accordance with existing Operating Permit. However, if the MTARNG deemed that the active mining operation was in conflict with or impacted the Guard's ability to carry out its mission, the active mine could be acquired and mining terminated. Terminating Graymont's mining operation would result in a failure to recover valuable limestone commodity resources. MTARNG has designated 94 existing Graymont claims in the surface danger impact zones and other active facility or training areas as being in conflict with the Guard's ability to carry out its mission at the present time. Mineral rights associated with these claims would be acquired, and potentially extinguished and the claims withdrawn from future mineral entry. No new operating permits or amendments would be issued and limestone resources outside of the existing permit boundary would not be mined.
Graymont Dolomite Resources	Major Adverse	Dolomite resources would not be mined as no new operating permits or permit amendments would be issued.
Mining Dependent on UXO Clearing	No effect	The Army would continue to clear claims of UXO within the current mine permit area to be completed by 2008.
Mineral Exploration	Major Adverse	The ability to explore and develop mineral deposits on claims located outside surface danger and impact zones would be functionally disallowed by the Army as no new operating permits or amendments would be issued.

TABLE S-3 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 1 (Proposed Action)

Resource or Activity	Effect	Impact Description
Soil Resources		
Soil Erosion and Compaction	Beneficial	Soil compaction and erosion would be reduced in some areas of LHTA if grazing permits and mining activities were terminated.
Soil Conservation	No effect	Allotments would continue to be managed to standards similar to Montana Rangeland Health Standards until existing grazing permits expired or were terminated.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	MTARNG would continue to be responsible for implementing water resource protection practices throughout the entire LHTA activities.
Water Quality (from Non-Military Activities)	No effect	If mining activities were terminated, the mine would be reclaimed as described in the permit which requires that water quality is maintained. Changes to water quality from the continuation or elimination of recreational activities or the presence of private land would not be expected to occur.
Water Quality (from Changes in the Boundary)	No effect	Excluding Indian Creek from the LHTA would not affect water quality.
Water Rights	Adverse	No impacts to water quantity in the LHTA is anticipated; however the right to use water by private landowners would be affected if they were no longer allowed access to the land, or the land was acquired by the Department of the Army.
Vegetation		
Vegetation (general health)	Beneficial	If domestic livestock grazing were reduced or eliminated, there would be less impact to range condition, plant cover and vegetation diversity. If mining activities in the area were curtailed or eliminated, there would be less disturbance of vegetation types.
Weeds (BLM Critical Element)	Beneficial	Acquisition of state and private lands within the LHTA by the military would reduce grazing and noxious weeds and non-native invasive species.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA.
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 1.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 1.

TABLE S-3 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I (Proposed Action)

Resource or Activity	Effect	Impact Description
Fish and Wildlife		
Wildlife	Minor adverse; no effect to minor beneficial	See the discussion on page 4-38 of the EIS. If domestic livestock grazing was reduced or eliminated, the potential conflict with certain wildlife species groups would be reduced; however, military activities would continue to affect wildlife. If mining activities were curtailed or eliminated, there would be less disturbance of the big game winter range habitat.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since no special species, including threatened and endangered species, are known to occur in the LHQA, no effect is expected to occur.
Cultural Resources (BLM Critical Element)		
Cultural Resources – Eligible Site Preservation	Adverse	Reconfiguration of surface danger zones could cause ground disturbance and may impact previously undisturbed ground and the cultural resources located therein.
Cultural Resources – Protection	Beneficial	Transferring private and state lands to federal ownership, the elimination of mining, and an increase in the size of the closure area, would afford more protection to significant properties located within the affected lands.
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.
Socioeconomics and Environmental Justice (BLM Critical Element)		
Local Grazing Permittees	Major Adverse	Reduction or elimination of grazing opportunities would prevent local permittees from using the LHQA for grazing.
Grazing (General)	Adverse	The general sense of the community as a ranching area would likely be altered.
Local Economy	Significantly Adverse	The elimination or decline of mining activities would have a cascading negative effect on regional employment, tax rolls, and the socio-economic environment in Broadwater County and the Region of Influence.
Local Government - Revenue	Major Adverse	Reduction or elimination of grazing opportunities could reduce revenues to local governments. Payments in lieu of taxes would be stopped because the land would be managed by the military, which does not participate in the program. Loss of revenue from Graymont Mine operations.
Local Business	Major Adverse	Terminating Graymont's mining operation would result in a loss of a portion of the capital investment in fixed mine facilities, loss of permitted future production, loss of exploration expenditures, and a loss in employment opportunities.

TABLE S-3 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 1 (Proposed Action)

Resource or Activity	Effect	Impact Description
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to manage waste and hazardous materials.
Ordnance and Explosives Cleanup	No effect	The proposed military use and thus ordnance and explosive activities of the LHTA would continue.
Human Safety	Beneficial	Improved boundary identification of the UXO high risk area and potential removal of public access to all of the LHTA would improve human safety.

TABLE S-4
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The MTARNG and BLM would share resource management responsibilities based on location within the LHTA (with the exception of mineral resources and grazing). Resources would continue to be managed in accordance with state, federal and local laws and requirements. Priorities and specific management practices would be based on the LHTA Integrated Natural Resource and Cultural Resource Management Plans for the closure area, and the most current BLM Butte Field Office Resource Management Plan for the nonclosure area. This would not result in any appreciable change in management practices with the exception of cultural resources.
Cultural Resource Management	Adverse	Division of responsibilities regarding historical properties that straddle the closure/non-closure area would require an additional coordination effort on the part of the MTARNG and BLM.
Military Use	Beneficial	Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access	Beneficial	Land available for public access would increase by 288 acres.
Grazing (permit retention and allotments)	No effect	Grazing in the LHTA allotments would continue to be managed by the BLM. If the BLM allowed existing grazing permits to continue, range management would not change.
Recreation (size of nonclosure area)	Beneficial	Available land would increase by 388 acres.
Recreation (hunting)	Minor beneficial	Additional acreage for hunting would be available.
Rights-of-Way	Adverse	Any proposed change or addition to a valid existing right-of-way would be submitted to the MTARNG for review and permission, and the response could adversely impact those who request a new right-of-way or easement in the LHTA.
Roads	Beneficial	Crow Creek Access Road, currently closed year-around, would be opened to public use in the same manner as all federal land in the LHTA east of Old Woman's Grave Road.
Property Ownership	Beneficial or Adverse	Private and state land owners would have the options of selling the land, selling an easement, or land exchange to the Army. This would increase land ownership options to private and state land owners in the LHTA.
Boundary Identification	Beneficial	Boundary identification between the closure/non-closure areas would be improved (same as Alternative 1).
Air Quality and Noise (BLM Critical Element)		
Air Quality	No effect	The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area (same as Alternative 1).
Noise	No effect	MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Effect could be partially mitigated (same as Alternative 1).

TABLE S-4 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Geology, Minerals, and Paleontology		
Mine Claims	No effect	Ninety-four mine claims determined to impact Army training objectives could not be used. This is the same as existing conditions.
Mine Expansion Permits	No effect	BLM and the MDEQ would continue to have the authority to issue mine expansion permit amendments or new operating permits. MTARNG approval for access (based on access to training areas, the presence of existing infrastructure and safety issues only), would be required. This is the same as existing conditions.
Graymont Limestone Mining	Minor effect	Graymont's current mine operations within the existing mine permit area would be expected to continue in accordance with the existing operating permit, however mining would not be allowed on red colored claims on Figures 5-2a and 5-2b along southeast margin of permit area. This may prevent the mining of a small amount of limestone reserves or impede access to mineable reserves.
Graymont Dolomite Resources	Minor Effect	Mining would not be allowed on red colored claims on Figures 2-5a and 2-5b that overlie dolomite resources currently proposed for mining in Graymont's new Permit Application. These resources have not been upgraded to mineable reserves at this point in time and have not been permitted for mining by the DEQ and BLM. Dolomite resources would probably not be mined. However, if a suitable plan were proposed by Graymont for mining these claims that provided acceptable access for the MTARNG to its training areas and existing infrastructure, some of these claims might be able to be mined.
Mining Dependent on UXO Clearance	No effect	The Army would continue to clear claims of UXO within the current Mine Permit area by 2008.
Soil Resources		
Soil Erosion and Compaction	No effect	Grazing permits would be renewed with similar land management conditions as currently required. Vegetation clearing for mine-related activities would continue.
Soil Conservation	No effect	Soil would be managed in accordance with existing resource protection practices.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	MTARNG and BLM would continue to be responsible for implementing water resource protection practices in the LHTA in accordance with water quality laws and regulations.
Water Quality (from Non-Military Activities)	No effect	Water quality as a result of mining would be maintained. Changes to water quality from the continuation or elimination of recreational activities or the presence of private land would not be expected to occur.
Water Quality (from Changes in the Boundary)	No effect	Excluding Indian Creek from the LHTA boundary would not affect water quality.
Water Rights	Adverse	Impact to water rights could be mitigated as per Section 4.11 to no impact.

TABLE S-4 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Vegetation		
Vegetation (general)	No effect	Mine expansion opportunities and restrictions would be the same as under current conditions.
Vegetation (Impacts from Grazing)	No effect	Livestock grazing in both the closure and non-closure areas would be managed by the BLM, and would be expected to continue according to current allotment agreements.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA (same as Alternative 1).
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 2.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 2.
Fish and Wildlife		
Wildlife	Minor adverse, no effect, or minor beneficial	See discussion on page 4-38 of the EIS. If non-federal (i.e., state and private) lands within the LHTA are acquired or placed under easement, some non-military activities associated with these lands (particularly building sites) would be reduced or eliminated; however, continued military activities would affect wildlife.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since special species are not known to occur in the LHTA, including threatened and endangered species, no effect would be expected to occur (same as Alternative 1).
Cultural Resources (BLM Critical Element)		
Cultural Resources – Eligible Site Preservation	Adverse	Increasing the size of the non-closure area could result in eligible sites being more accessible and thus susceptible to vandalism.
Cultural Resources –Protection	Beneficial	Transferring private and state lands to federal ownership could afford more protection to cultural properties located within the affected lands.
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.

TABLE S-4 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Socioeconomics and Environmental Justice (BLM Critical Element)		
Grazing Permittees	No effect	Grazing allotments would continue to be managed as they are under existing conditions.
Local Economy	No effect	Operating under the current mine permit would have stabilizing effect while mining operations extract the remaining product provided for under existing permits. Same as existing conditions. The continuation of the existing grazing management program would likely not affect local agricultural community, tax rolls, and land values and the socioeconomic setting in the socio-economic region of influence. Dolomite resources would likely not be mined. However, if a suitable plan were proposed by Graymont for mining these claims that provided acceptable access for the MTARNG to its training areas, some of these claims might be able to be mined.
Local Government – Revenue	Adverse or no effect	Payments in lieu of taxes would be stopped for the portion of the LHTA managed by the military, which does not participate in the program. This impact could be mitigated by a one-time payment of \$400,000 to Broadwater County.
Local Business	No effect	Grazing, mining and MTARNG activities would continue as they are under existing conditions.
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to be the responsible party for managing waste and hazardous materials.
Ordnance and Explosives Cleanup	No effect	The proposed military use and thus ordnance and explosive activities of the LHTA would continue.
Human Safety	Beneficial	Improved boundary identification of the UXO high risk area would improve human safety.

TABLE S-5
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
		Land Use
Natural Resource Management	No effect	The MTARNG would assume all resource management responsibilities within the LHTA with the exception of mineral resources. Resources would continue to be managed in accordance with state, federal and local laws and requirements. Priorities and specific management practices would be based on the LHTA Integrated Natural Resource and Cultural Resource Management plans rather than the most current BLM Butte Field Office Resource Management Plan for the nonclosure area. This would not result in any appreciable change in management practices.
Cultural Resource Management	No effect	Cultural resources would be managed by the same agency throughout the LHTA in accordance with all applicable requirements.
Military Use	Beneficial	Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access	Beneficial	The land available for public access would increase by 287 acres (same as Alternative 1).
Grazing (Permit Retention and Allotments)	Beneficial	Grazing in the LHTA allotments would shift from the BLM to the MTARNG and existing permit holders would continue grazing under current lease conditions with the option to renew.
Recreation (size of available area)	Beneficial	The land available for recreation would increase by 388 acres (same as Alternative 2).
Recreation (status of closure area)	Adverse	Status of closure area would change from temporarily closed to permanently closed. This impact could be mitigated as per Section 4.11 to no impact.
Recreation (hunting)	Minor beneficial	Additional acres (287) for hunting would be available (same as Alternative 2).
Rights-of-Way	Adverse	Any proposed change or addition to a valid existing right-of-way would be submitted to the MTARNG for review and permission, and the response could adversely impact those who request a new Right-of-way or easement in the LHTA (same as Alternative 2).
Roads	Beneficial	Crow Creek Access Road, currently closed year-around, would be opened to public use in the same manner as all federal land in the LHTA east of Old Woman's Grave Road (same as Alternative 2).
Property Ownership	Beneficial or Adverse	The Department of the Army would not exercise its authority to condemn private land within the withdrawn land. Private and state land owners would have the options of selling the land, selling an easement, or land exchange to the Army. This would increase land ownership options to private and state land owners in the LHTA (same as Alternative 2).
Boundary Identification	Beneficial	Boundary identification between the closure/non-closure areas would be installed (same as Alternatives 1 and 2).

TABLE S-5 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Air Quality and Noise (BLM Critical Element)		
Air Quality	No effect	The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area (same as Alternatives 1 and 2).
Noise	No effect	MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Effect could be partially mitigated (same as Alternatives 1 and 2).
Geology, Minerals, and Paleontology		
Mine Claims	No effect	Ninety-four mine claims determined to currently impact Army training objectives could be acquired by the Army. This is the same as existing conditions.
Mine Expansion Permits	No effect	The BLM and the MDEQ would continue to issue mine expansion permit amendments or new operating permits with the approval of the MTARNG (based on access to training areas, the presence of existing infrastructure and on safety issues only) (same as Alternative 2 and existing conditions).
Graymont Limestone Mining	Minor Effect	Graymont's current mine operations within the existing Mine Permit area would be expected to continue in accordance with existing Operating Permit (same as Alternative 2 and existing conditions), however mining would not be allowed on red colored claims on Figures S-2a and S-2b along southeast margin of permit area. This may prevent the mining of a small amount of limestone reserves or impede access to mineable reserves.
Graymont Dolomite Resources	Minor Effect	Mining would not be allowed on red colored claims on Figures 2-5a and 2-5b that overlie dolomite resources currently proposed for mining in Graymont's new Permit Application. In addition these resources have not been upgraded to mineable reserves at this point in time and have not been permitted for mining by the DEQ and BLM. Dolomite resources would probably not be mined. However, if a suitable plan were proposed by Graymont for mining these claims that provided acceptable access for the MTARNG to its training areas, and existing infrastructure some of these claims might be able to be mined.
Mining Dependent on UXO Clearance	No effect	The Army would continue its efforts to clear UXO within the current mine permit area by 2008 (same as Alternative 2 and existing conditions).
Mineral Exploration	No effect	Exploration and development of mineral deposits on claims located outside surface danger and impact zones would likely not change (same as Alternative 2). Exploration could proceed once safe access is obtained from the MTARNG with approval of an exploration program by the BLM.
Soil Resources		
Soil Erosion and Compaction	No effect	Allotments would continue to be managed for soil erosion and sedimentation as under existing conditions (same as Alternative 2).
Soil Conservation	No effect	Soil would continue to be managed in accordance with existing practices.

TABLE S-5 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	MTARNG would assume responsibility for implementing water resource protection practices throughout the entire LHTA in compliance with state and federal requirements.
Water Quality (from Non-Military Activities)	No effect	Water quality as a result of mining would be maintained. Changes to water quality from the continuation or elimination of recreational activities or the presence of private land would not be expected to occur.
Water Quality (from Changes in the Boundary)	No effect	Excluding Indian Creek from the LHTA boundary would not affect water quality.
Water Rights	Adverse	Impact to water rights could be mitigated as per Section 4.11 to no impact.
Vegetation		
Vegetation	No effect	Mining expansion opportunities and restrictions resulting in disturbance of associated vegetation types are the same as existing conditions and Alternative 2.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA (same as Alternative 1).
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 3.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 3.
Fish and Wildlife		
Wildlife	Minor adverse, no effect, or minor beneficial	See the discussion on page 4-38 of the EIS. Same as Alternative 2.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since no threatened and endangered species are known to occur in the LHTA, no effect would be expected to occur (same as Alternatives 1 and 2).
Cultural Resources (BLM Critical Element)		
Cultural Resources – Eligible Site Preservation	Adverse	Increasing the size of the non-closure area could result in eligible sites being more accessible and thus susceptible to vandalism (same as Alternative 2).
Cultural Resources –Protection	Beneficial	Transferring private and state lands to federal ownership could afford more protection to significant properties located within the affected lands (same as Alternative 2).
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.

TABLE S-5 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Socioeconomics and Environmental Justice (BLM Critical Element)		
Grazing Permittees	Beneficial	The adoption of grazing management under the MTARNG with an extended renewal period for permittees would beneficially affect the local agricultural community in the region of influence.
Local Economy (Mining)	No effect	Operating under the current permit would have a stabilizing effect while mining operations extract the remaining product provided for under existing permits (same as existing conditions and Alternative 2). Dolomite resources would not be mined, unless there is a suitable proposal from Graymont that would still allow MTARNG unhindered access to the training ranges.
Local Government - Revenue	Beneficial or No Effect	Payments in lieu of taxes would be stopped because the land would be managed by the military, which does not participate in the program. This impact would be mitigated with a one-time payment of \$1,000,000 to Broadwater County.
Local Business	No effect	Grazing, mining, and MTARNG activities would continue as they are under existing conditions.
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to be the responsible party for managing hazardous waste and materials (same as Alternative 1 and existing conditions).
Ordnance and Explosives Activities	No effect	The proposed military use and thus ordnance and explosive activities of the LHTA would continue (same as Alternative 1 and existing conditions).
Human Safety	Beneficial	Improved boundary identification of the UXO high risk area would improve human safety.

TABLE S-6
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The BLM continues management of resources in the LHTA. No changes in resource management are anticipated during or after termination of military use.
Cultural Resource Management	No effect	Cultural resources would continue to be managed by one agency throughout the LHTA.
Military Use (training and safety)	Major Adverse	No changes to the military use until the MTARNG ceases to use the LHTA sometime before March 26, 2014 are anticipated. Specifically, the annual use period would not change. After 2014, the MTARNG would no longer be allowed use of the LHTA.
Military Use (long term availability)	No effect/adverse	Loss of the LHTA for military purposes would eliminate the use of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access (before end of ROW)	No effect	Public access would remain as is and no change in public access is likely to occur.
Public Access (after ROW)	Adverse	Removal rate of UXO is likely to slow after the right-of-way is no longer in effect, increasing the period of time of closure for UXO-hazard areas in the LHTA.
Grazing (permit retention and allotments)	No effect/adverse	Grazing management would continue as it is under current conditions. Grazing may be prohibited in closure area after MTARNG ceases management of UXO clearance
Recreation (size of available area)	No effect	Recreation would continue to be managed by the BLM.
Recreation (status of closure area)	Adverse	The length of time needed for clearance of the closure area and subsequent access for recreation would likely increase.
Recreation (hunting)	No effect (short-term), minor beneficial (long-term)	Because military training activities do not take place during hunting season, no impact is anticipated during the duration of military activities. After cessation of military activities, some portions of the closure area may be opened for hunting.
Rights-of-Way and Roads	No effect	The BLM would continue to be responsible for management and permitting all new rights-of-way. Proposed changes or addition to a valid existing right-of-way would not be submitted to the MTARNG for review and permission, or be subject to approval by the Army. Road access under the no action alternative would be the same as under existing conditions, access to the Crow Creek Access Road would continue to be closed.
Property Ownership	No effect	The Army would not acquire any land in the LHTA. Private and state land owners would not be offered the option of selling land or an easement to the Army.
Boundary Identification	No effect	LHTA boundaries would not be further identified.

TABLE S-6 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Air Quality and Noise (BLM Critical Element)		
Air Quality	Beneficial	Until termination of the ROW grant, the proposed action and alternatives would have no impact on attainment status for the area. After termination of the ROW agreement, dust raised by military vehicles would no longer affect the environment resulting in a beneficial impact to air quality.
Noise	Beneficial	Until termination of the ROW grant, MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence would be exposed to various noise sources during training activities. After the MTARNG ceases use of the LHTA, noise from training activities would no longer affect the environment resulting in a beneficial impact.
Geology, Minerals, and Paleontology		
Mine Claims	No effect or major adverse	Mineral rights determined to impact Army training objectives would not be assumed by the Army. However use of mining rights for ground-disturbing activities in UXO-contaminated areas could be prohibited after termination of the MTARNG right-of-way.
Mine Expansion in current nonhazardous areas for UXO	Beneficial	Mine operating permits or amendments for expansion of existing permits would be reviewed by the MTARNG for safety and access until the military use of the LHTA ceased. Mine expansion would then likely be allowable into areas that are determined to have never been hazardous for UXO with no consideration for where claims are in conflict with the military mission.
Mine Expansion into cleared or noncleared UXO areas	Major Adverse	Current clearance status for ground-disturbing activities would likely be reversed by the responsible decision agency resulting in a prohibition of mining in areas previously contaminated with UXO.
Graymont Limestone Mining (short term)	No effect	Graymont's current mine operations within the existing mine permit area would be expected to continue in accordance with existing operating permit while the MTARNG continued use of the LHTA.
Graymont Limestone Mining (long term)	Major adverse	Potential prohibition of mining activities in the closure area after responsibility of UXO safety hazard is transferred to another agency.
Graymont Dolomite Resources	Major Adverse Effect	These resources have not been upgraded to mineable reserves at this point in time and have not been permitted for mining by the DEQ and BLM. Potential prohibition of mining activities in the closure area after responsibility of UXO safety hazard is transferred to another agency.
Mining Dependent on UXO Clearance	Major Adverse	The Army would continue to clear mine claims of UXO within the current mine permit area at the current rate until MTARNG use of the LHTA ceased. After the right-of-way is no longer applicable, the clearance rate is likely to change or stop.
Mineral Exploration	Major Adverse	Exploration and development of mineral deposits on claims located in the closed area potentially containing or previously containing UXO is likely to be prohibited after the MTARNG ceased military use of the LHTA.

TABLE S-6 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Soil Resources		
Soil Erosion and Sedimentation	No effect	Range management for erosion and sedimentation would continue as it is currently.
Soil Conservation	No effect	Soil would continue to be managed in accordance with existing practices.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	The BLM would continue to be responsible for oversight of water resource protection practices.
Water Quality (from Non-Military Activities)	No effect	Water quality protection practices by the mine would continue. Changes to water quality from the continuation of recreational activities or the presence of private land would not be expected to occur.
Water Rights	No effect	No impacts to water rights are anticipated from the no action alternative.
Vegetation		
Vegetation	Beneficial	Mining expansion, grazing, military training exercises, UXO clearance, and other potential causes of vegetation disturbance would remain the same until the MTARNG ceased use of the LHTA. After that time, mining and exploration activities would likely be limited to areas having no potential for UXO contamination, and vegetation disturbance by the MTARNG would also cease.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA.
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 4.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 4.
Fish and Wildlife		
Wildlife	Minor adverse, no effect or minor beneficial	See the discussion on page 4-38 of the EIS. Wildlife diversity, or the types and seasons of wildlife use of the training area would likely not change. If expansion of the Graymont mine were curtailed, less mountain mahogany would be removed from the LHTA. Eventual cessation of military activities may potentially have a minor beneficial effect.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since no special species including threatened and endangered species are known to occur in the LHTA, no effect would be expected to occur.
Cultural Resources (BLM Critical Element)		
Cultural Resources	No effect	Preservation and protection of cultural resources within the LHTA would remain unchanged.
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.

TABLE S-6 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Socioeconomics and Environmental Justice (BLM Critical Element)		
Local Economy	No effect or significant adverse	The continuation of the existing grazing management program would likely not affect the local agricultural community, tax rolls, and land values and the socioeconomic setting in the socio-economic region of influence. If mining is prohibited after military use ends, Broadwater County's economy would be affected.
Local Government - Revenue	No effect or major adverse	Payments in lieu of taxes by the BLM would continue. Loss of revenue from the mine would substantially impact county revenue.
Local Grazing Permittees	Adverse	Grazing allotments could be terminated in the closure area if, after the end of the MTARNG right-of-way grant, the agent for the Army determines that some or all closure area activities are inappropriate until the area is cleared.
Local Business	Adverse	Loss of the LHTA for military training would result in job loss in the tri-county study area, and reduction in MTARNG procurement expenditures in Montana.
Local Business (mining)	Major Adverse	After the MTARNG ceases use of the LHTA, mining activities could be prohibited in any area previously contaminated with UXO or within the closure area.
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to manage non-UXO waste and materials until it ceases use of the LHTA.
Ordnance and Explosives Cleanup	Major Adverse	The proposed military use and thus ordnance and explosive activities of the LHTA would continue until termination of the MTARNG right-of-way. After the MTARNG ceases use of the LHTA, UXO clearance could slow or stop due to funding and management constraints, UXO clearance priorities in the LHTA could change depending on the priorities of the decision agency.
Human Safety	No effect	Boundary identification of the UXO high risk area would remain as is. If UXO clearance is discontinued, the closure area would likely remain in effect indefinitely.

TABLE S-7
SUMMARY OF IMPACTS FROM ALL ALTERNATIVES

Resource, Land Use, or Activity	General Impact				
	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 ¹	
				Short term	Long term
Natural Resource Management	No effect	No effect	No effect	No effect	No effect
Cultural Resource Management	No effect	Adverse	No effect	No effect	No effect
Military Use (Training and Safety)	Beneficial	Beneficial	Beneficial	Adverse	Major Adverse
Military Use (long-term availability)	Beneficial	Beneficial	Beneficial	Adverse	Major Adverse
Public Access	Major Adverse	Beneficial	Beneficial	No effect	Adverse
Grazing (Permit Retention)	Beneficial	No effect	No effect	No effect	Adverse
Grazing (available allotments)	Adverse	No effect	No effect	No effect	Adverse
Recreation (available area)	Adverse	Beneficial	Beneficial	No effect	Beneficial
Recreation (status of closure area)	Adverse	Adverse or No effect with mitigation	Adverse or No effect with mitigation	No effect	No effect
Rights-of-Way	Adverse	Adverse	Adverse	No effect	No effect
Roads	No effect	Beneficial	Beneficial	No effect	No effect
Property Ownership	Major Adverse	Beneficial or Adverse	Beneficial or Adverse	No effect	No effect
Boundary Identification	Beneficial	Beneficial	Beneficial	No effect	No effect
Air Quality	No effect	No effect	No effect	No effect	Beneficial
Noise	No effect	No effect	No effect	No effect	Beneficial
Mine Claims	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Mining in Hazard Areas non-UXO	No effect	No effect	No effect	No effect	Beneficial

TABLE S-7 (Continued)
SUMMARY OF IMPACTS FROM ALL ALTERNATIVES

Resource, Land Use, or Activity	General impact				
	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 ¹	
				Short term	Long term
Mine Expansion Permits	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Graymont Limestone Mining	Major Adverse	Minor effect	Minor effect	No effect	No effect or Major Adverse
Graymont Dolomite Resources	Major Adverse	Minor effect	Minor effect	No effect	No effect or Major Adverse
Mining Dependant on UXO Clearance	No effect	No effect	No effect	No effect	Adverse
Mineral Exploration	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Soil Erosion and Compaction	Beneficial	No effect	No effect	No effect	No effect
Soil Conservation	No effect	No effect	No effect	No effect	No effect
Water Quality	No effect	No effect	No effect	No effect	No effect
Water Rights	Adverse	Adverse or no effect with mitigation	Adverse or No effect with mitigation	No effect	No effect
Vegetation (general health)	Beneficial	No effect	No effect	No effect	Beneficial
Vegetation (threatened and endangered species)	No effect	No effect	No effect	No effect	No effect
Wildlife	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial
Wildlife (threatened and endangered species)	No effect	No effect	No effect	No effect	No effect

TABLE S-7 (Continued)
SUMMARY OF IMPACTS FROM ALL ALTERNATIVES

Resource, Land Use, or Activity	General Impact				
	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 ¹	
				Short term	Long term
Cultural Resources (eligible site preservation)	Adverse	Adverse	Adverse	No effect	No effect
Cultural Resources (protection)	Beneficial	Beneficial	Beneficial	No effect	No effect
Native American Religious Concerns	No effect	No effect	No effect	No effect	No effect
Local Grazing Permits	Major Adverse	No effect	Beneficial	No effect	No effect or Adverse
Grazing Land Use (general)	Adverse	No effect	No effect	No effect	No effect or Adverse
Local Economy	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Local Government - Revenue	Major Adverse	Adverse or No effect with mitigation	Adverse or No effect with mitigation	No effect	No effect or Major Adverse
Local Business	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Hazardous Materials Use and Disposal Procedures	No effect	No effect	No effect	No effect	No effect
UXO Clean Up	No effect	No effect	No effect	No effect	Major Adverse
Human Safety	Beneficial	Beneficial	Beneficial	No effect	No effect

Notes:

¹ Short term impacts under Alternative 4 refer to impacts that occur while military use continues at the LHTA. Long term impacts are those that are expected occur after MTARNG use of the LHTA is terminated.

NA = Not Applicable

UXO = Unexploded Ordnance

Major and significantly adverse impacts are shown in bold

1. The first part of the report is a summary of the work done during the year.

2. The second part is a detailed account of the work done during the year.

3. The third part is a summary of the work done during the year.

4. The fourth part is a summary of the work done during the year.

5. The fifth part is a summary of the work done during the year.

6. The sixth part is a summary of the work done during the year.

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23. The twenty-third part is a summary of the work done during the year.

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25. The twenty-fifth part is a summary of the work done during the year.

26. The twenty-sixth part is a summary of the work done during the year.

27. The twenty-seventh part is a summary of the work done during the year.

28. The twenty-eighth part is a summary of the work done during the year.

29. The twenty-ninth part is a summary of the work done during the year.

30. The thirtieth part is a summary of the work done during the year.

CHAPTER I

PURPOSE AND NEED FOR THE WITHDRAWAL OF THE LIMESTONE HILLS TRAINING AREA

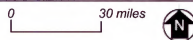
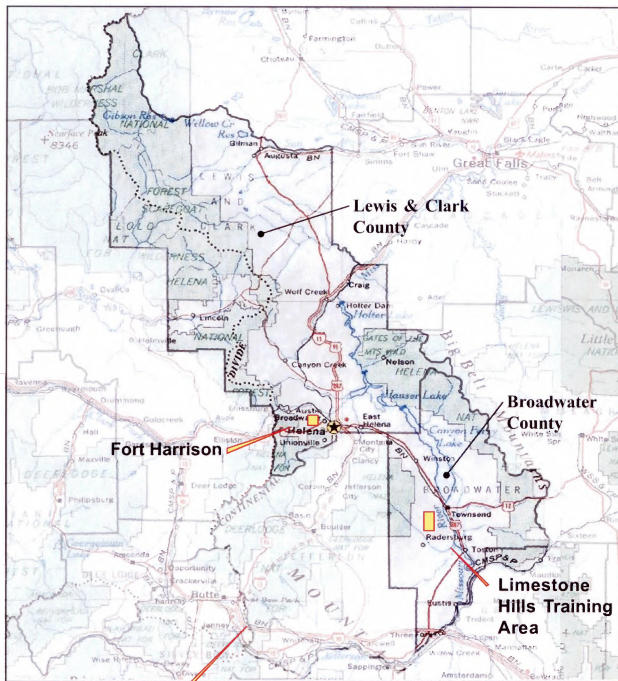
This Legislative Environmental Impact Statement (EIS) has been prepared in support of an application by the United States (U.S.) Department of the Army (the Army) to withdraw 18,644 acres of federal lands within the Limestone Hills Training Area (LHTA) from U.S. Department of the Interior, Bureau of Land Management (BLM) administration. The lands are critical to maintaining Montana Army National Guard (MTARNG) military readiness. The Army proposes that the Department of the Interior and Congress transfer administrative responsibility of all federal land within the LHTA to the Army as a land withdrawal for military training use by the MTARNG. The following section provides a general introduction to this proposal (Section 1.1). Subsequent sections discuss the purpose and need (Section 1.2), the land withdrawal process (Section 1.3), decisions to be made (Section 1.4), the scope of the EIS including issues of concern and public scoping results (Section 1.5), and other regulatory requirements (Section 1.6).

I.1 INTRODUCTION

The LHTA, located in Broadwater County near Townsend, Montana, has supported the military mission of the MTARNG from the 1950s to the present (Figure I-1). In 1984, the U.S. Department of the Interior, BLM granted the MTARNG a 30-year right-of-way to use federal land within the LHTA for military purposes under specific terms and conditions (Appendix A). This right-of-way grant expires March 26, 2014. To continue the military use of these public lands, the Army must apply to withdraw federal land in the LHTA in accordance with the Engle Act of 1958, which requires an Act of Congress for military withdrawals encompassing more than 5,000 acres. The LHTA is comprised primarily of public land administered by the BLM, pursuant to the *Federal Land Policy and Management Act* (FLPMA) (Public Law [PL] 94-579, 43 U.S. Code 1701-1782), and other public land laws.

Safety is the primary reason for the proposed withdrawal. In the case of the LHTA, a land withdrawal is the BLM's only authorization option as set forth in BLM Instruction Memorandum No. 91-283 (BLM 2000). This directive states that any lands for which the military is likely to have unexploded ordnance (UXO), chemical munitions, or other similar hazardous materials, or where long-term exclusive use of the lands is required for public safety or national security reasons, may be authorized for use only by public land withdrawal. Portions of the LHTA have been used for live-fire weapons training resulting in a risk of encountering UXO throughout the training area. Unexploded ordnance is present in the LHTA due to ordnance failing to detonate fully upon impact after being fired.

The MTARNG administers, trains, and deploys Army National Guard soldiers. The LHTA is used for military training by units from the MTARNG, other military services and allied nations. These units are organized, trained, and equipped to respond to Montana and national emergencies, and overseas deployment.



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 1-1 MONTANA ARMY NATIONAL GUARD CENTRAL TRAINING

1.2 PURPOSE AND NEED

The purpose of the proposed land withdrawal is to enable the MTARNG to meet its military mission for 25 years into the future and to minimize hazards to the public and military land users on the LHTA.

1.2.1 MILITARY MISSION

This section describes the mission of the MTARNG in the context of the missions of the Army and the Army National Guard.

U.S. Military Mission

The mission of the nation's military is to defend the U.S. and to secure and enhance U.S. interests and policies around the world. This includes ensuring strong relations with our allies, deterring aggression, and protecting our rights of trade and travel. Military power is also required to deter competing military activities, compel nations and organizations with hostile intentions to re-evaluate their plans and, if necessary, fight and win any conflict with a potential enemy. In addition, the U.S. military is currently expected to participate in a broad range of conflict prevention, peacekeeping, and civil support activities.

National Guard Federal Mission

During national emergencies, the President reserves the right to mobilize the National Guard, putting them on federal duty status. While federalized, the units answer to the Combatant Commander of the theatre in which they are operating and, ultimately, to the President. Even when not federalized, the National Guard has an obligation (a mission) to maintain properly trained and equipped units, available for prompt mobilization for war, in national emergency, or as otherwise needed. The National Guard is a partner with the Active Army and the Army Reserves in fulfilling the country's military needs. National Guard soldiers are assigned duty in more than 80 countries in a wide variety of operations including peacekeeping, stabilization, security, and nation building. Recent examples of how the National Guard fulfills its federal mission include participating in combat and combat support in Iraq and Afghanistan; international peacekeeping in Bosnia, Kosovo, and the Sinai; airport and border security; and infrastructure protection.

Montana Army National Guard State Mission

The MTARNG is one of 54 national guards that exist in 50 states, three territories, and the District of Columbia. The Governor of Montana is the Commander in Chief for the MTARNG. The Adjutant General is the officer in charge of the MTARNG and is answerable to the Governor for the training and readiness of the units. As for all state national guards, the Governor reserves the ability to call up members of the National Guard in time of domestic emergencies or need.

The overall mission of the MTARNG is to train and equip soldiers to meet readiness standards and conduct wartime and peacetime missions; to provide a "citizen-soldier" military model for the Partnership for Peace Program with Kyrgyzstan; to provide ready forces for state missions; and to participate in community activities that add value to Montana. The MTARNG mission includes responding to wildfires and helping communities in Montana and other states, if requested. In times of civil unrest, the MTARNG is also ready to respond, if needed.

At any given time, 25 percent of the MTARNG may be deployed to the federal mission and another 25 percent may be in training to prepare for deployment to meet the federal mission. The remaining 50 percent will serve on state missions as directed by the governor or in support of homeland defense operations.

The MTARNG maintains 30 armories and is present in 23 communities. The major commands of the MTARNG are:

- Joint Forces Headquarters
- 95th Troop Command
- Garrison Command
- Rapid Engineer Deployable Heavy Operational Repair Squadron (REDHORSE)

1.2.2 IMPORTANCE OF LIMESTONE HILLS TRAINING AREA TO MILITARY MISSION

Military power is composed of a wide range of elements, the most central of which includes the quality of personnel, training, equipment, infrastructure, maintenance, and logistic capability. The LHTA provides a challenging, realistic training environment necessary for retaining battle-ready soldiers by providing world-class training at both the individual and unit level. Realistic training that fully engages military capabilities is the primary means to ensure readiness and prepare our military to fight and win in combat. This training is central to the way the U.S. armed services fight.

Effective training consists of a careful progression of exercises directed at individuals, crews, and units. All training exercises are fully evaluated to provide feedback and lessons learned for the development of future tactics and doctrine. Whether training is conducted at the individual level or as a full-scale field exercise, realistic training is critical to maintaining military proficiency. To be effective, a training range must provide sufficient land to conduct training at realistic distances. Access to a variety of conditions (for example, simulated threats, operational space, topographic relief, and safety constraints) and scheduling availability are also important characteristics for a training range. Existing ranges are used to the greatest extent possible, while sustaining the land and its resources. MTARNG forces require training areas the size and configuration of the LHTA to prepare soldiers realistically and units for known and emerging threats to our nation and its interests; and to test and refine innovative concepts and new strategies to deter, compel, and if required, fight and win.

The primary mission of the LHTA is to train soldiers of the MTARNG and other units. The LHTA provides the following training needs:

- a training area for National Guard and Reserve Forces;
- a training area, when needed, for active component forces including the U.S. Army, U.S. Air Force, U.S. Marine Corps, and U.S. Navy;
- assistance for logistical support to units conducting inactive duty training and annual training;
- a venue for the inactive duty training gunnery program to meet operating requirements;
- small arms and crew-served weapons qualification ranges and facilities;
- maneuver areas suitable for training infantry and other personnel in conducting dismounted exercises;
- organizational support maintenance facilities for units conducting training; and
- training areas and facilities to local law enforcement agencies, civil defense organizations, public education institutions, and other civilian activities as long as no interference occurs with existing military training activities.

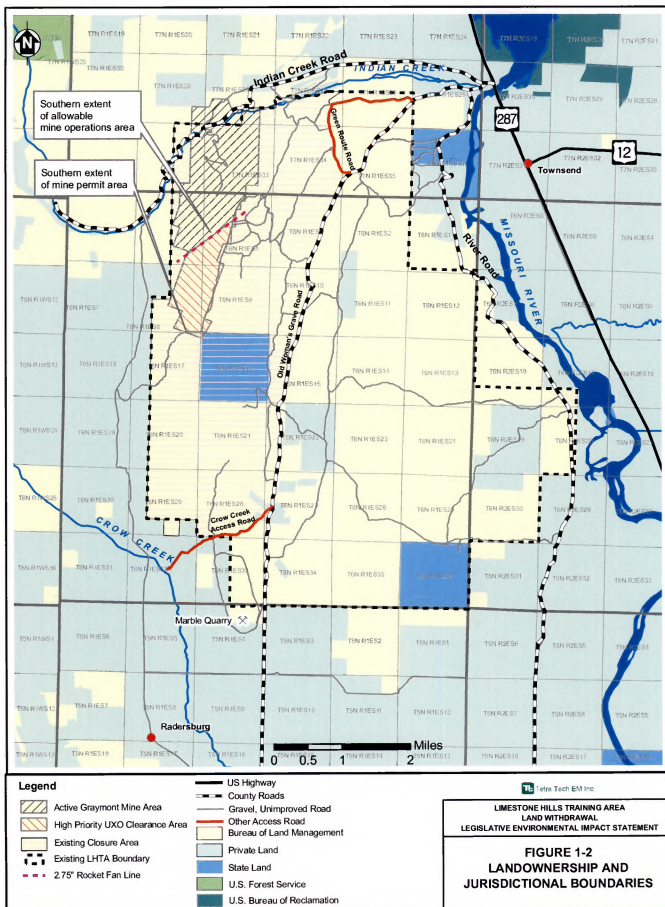
1.2.3 ADMINISTRATIVE HISTORY OF THE LHTA

The BLM authorized use of the LHTA for military training purposes from the mid 1950s until 1984 when the BLM issued a right-of-way grant to the MTARNG for a term of 30 years. In 1986, the Interior Board of Land Appeals ruled that use of public land for military maneuvers is not properly authorized under a right-of-way grant pursuant to Section 501 of the *Federal Land Policy and Management Act* (43 U.S. Code 1761).

The 1984 right-of-way grant specifies policies, procedures, and responsibilities for the BLM and the MTARNG related to land use planning and resource management of the LHTA (BLM 1984a and Appendix A). The BLM also has managerial responsibilities for public use of the LHTA including recreation, grazing, rights-of-way, and resource management.

In 1991, BLM determined that valid authorizations for military use of public lands in effect at that time could continue until their expiration dates, at which time they should be authorized by another means. In addition, the 1991 policy statement required that any area likely to contain UXO could only be authorized by a public land withdrawal.

In 1993, BLM required the MTARNG to perform a comprehensive evaluation of the risk to public safety near the area currently used for missile targets, known as the high explosive active impact area. The survey revealed UXO in the LHTA (Department of Army 1993). In the fall of 1993, BLM implemented an emergency closure on most LHTA land west of Old Woman's Grave road to ensure public safety and minimize liability risk to federal and state governments. Figure 1-2 provides a map that shows the LHTA closure area and the high explosive active impact area.



Also in 1993, BLM requested that the MTARNG apply to withdraw the LHTA right-of-way area if the Guard wished to continue using the range after March 26, 2014. The BLM determined that military testing and training activities performed at the LHTA could not be statutorily accommodated under either a right-of-way grant or a cooperative agreement. The Interior Board of Land Appeals has found that military training on BLM lands is appropriately authorized by a withdrawal in the case of UXO contamination.

1.2.4 LAND WITHDRAWAL REQUIREMENTS

To execute a land withdrawal the size of the LHTA area, the Department of Defense must (1) assess the need for and adequacy of the LHTA for military training purposes, (2) obtain a waiver to the Major Land Acquisition Moratorium, (3) develop a plan and schedule for potential acquisition of the LHTA, (4) prepare an environmental review in accordance with the National Environmental Policy Act (NEPA), and (5) obtain Congressional approval of the proposed withdrawal. These steps are described below.

- (1) In 1998 the MTARNG completed a Land Use Requirements Study (MTARNG 2002a) to assess training requirements for the MTARNG, and to evaluate the adequacy of existing training facilities and the need for continued use of the LHTA. The MTARNG also conducted an Alternatives Analysis Study (MTARNG 1998a) to assess other options to meet training needs.
- (2) The Major Land Acquisition Moratorium prohibits major land acquisitions by the Department of Defense without approval of the Secretary of Defense or the Deputy Secretary of Defense in the form of a waiver to the moratorium (a "major land acquisition" is defined as a purchase, withdrawal from public domain, lease, or permit involving more than 1,000 acres, or land for which the estimated purchase price exceeds \$1 million). To respond to the BLM request for a land withdrawal, the Army requested a waiver to withdraw 20,652 acres of BLM-administered public land at the LHTA. The Army was granted the waiver request in May 2002. Copies of the waiver request and waiver are in Appendix B.
- (3) A plan must be prepared by the U.S. Army Corps of Engineers for the potential withdrawal of the LHTA to:
 - a. establish a sound basis for the acquisition of land and interests in accordance with existing law and broad procedures of higher authority;
 - b. collect all necessary real estate data;
 - c. correlate and evaluate these data from the standpoint of establishing the necessity for the proposed acquisition;
 - d. establish that no Government-owned or Government-controlled lands are available for the intended use;
 - e. determine the required estate, in accordance with existing policies, sufficient to protect the interests of the Government;
 - f. generally prepare each project for submission to the appropriate decision making official of the interested department or agency, and, where necessary, to the Department of Defense and the Congressional committees, for approval.

- (4) This Legislative EIS has been prepared in accordance with the *National Environmental Policy Act*. The document includes analysis of the potential environmental consequences that the proposed action and alternatives could have on land use, airspace, transportation, utilities, earth resources, air quality, water resources, biological resources, cultural resources, socio-economics, environmental justice, noise, safety, and hazardous substances and waste.
- (5) The *Engle Act of 1958* (Public Law 85-337) requires Congressional approval for the withdrawal from public use of any area greater than 5,000 acres for military purposes. Because the proposed LHTA land withdrawal would result in transfer of administrative jurisdiction of 18,644 federal acres to the Army, the final decision regarding the selected alternative from this EIS must come from Congress rather than from a federal agency. Under the *Engle Act*, the withdrawal of federal land within the LHTA would be subject to the condition that all minerals, including oil and gas, remain under the jurisdiction of the Secretary of the Interior (BLM) and administered under applicable public mining and mineral leasing laws.

In 2001, BLM updated the 1991 land withdrawal policy to affirm that military withdrawal proposals to BLM must be considered under the land use planning process, the *National Environmental Policy Act*, other natural and cultural laws and executive orders, and standard public participation practices. The policy also states that all authorizations for military activity must provide the requesting agency (the Army) the minimum land area, uses, and rights necessary to accomplish the authorized activity in a safe and generally unimpeded manner, subject to valid existing rights. This policy statement is titled *Bureau of Land Management Instructional Memorandum No. 2001-030* (BLM 2001a). In the case of the LHTA, a land withdrawal is the BLM's only authorization set forth in BLM Instruction Memorandum No. 91-283 (BLM 2000).

In 2002, the MTARNG submitted a proposal for a major land withdrawal to the BLM (Appendix B).

In 2003, the Army issued a joint notice of intent with the BLM in the September 4 *Federal Register* to prepare a Legislative EIS and resource management plan amendment for withdrawal of land at the LHTA (*Federal Register* 2003).

1.2.5 WITHDRAWAL REQUIREMENTS

WITHDRAWAL REQUIREMENTS UNDER 43 U.S. CODE PART 2300

The *Engle Act* provides that *withdrawals, reservations, or restrictions of more than five-thousand acres of public lands of the United States for certain purposes shall not become effective until approved by Act of Congress, and for other purposes*. Public law procedures for making, modifying or extending a withdrawal are listed in this section. One of the requirements for making a withdrawal is addressed by completing an EIS, while other requirements are addressed in sections of this EIS. Requirements for making a withdrawal that are addressed in this EIS are followed with a reference to the relevant section(s). Requirements not addressed in this EIS are followed by a description of the report or action that has, or will, meet the requirement.

TABLE 1-1 FEDERAL REQUIREMENTS FOR WITHDRAWAL PROCEDURES	
Procedures Listed Under U.S. Code Section 2310.1 General Procedures	How/When Addressed
(1) Conduct preapplication consultation.	Consultation began November 2002.
(2) Obtain approval from the Secretary of the Interior of a withdrawal petition in appropriate cases.	After withdrawal petition is submitted
(3) Submit an application for a requested withdrawal action. <i>Application requirements are listed below under "Procedures Listed under Section 2310.1-2."</i>	A partial application was filed October 21, 2005
(4) Publish notice in the <i>Federal Register</i> stating that a withdrawal proposal has been made or that an application has been submitted for filing.	After NEPA process
(5) Negotiations between the applicant (the Army) and the authorized officer for BLM.	Continued negotiation Jan 2003 – present
(5) Accomplish investigations, studies and analyses which may be required to process an application.	Completed or in progress studies are: Land Use Requirements Study, Alternatives Analysis Study, Environmental Baseline Study, Mineral Occurrence Report, Socio-economic Report, Legislative EIS
(6) Prepare the case file to be considered by the Secretary of the Interior including the authorized officer's findings and recommendations.	After NEPA process
(7) Transmit the case file to the Director, BLM, for the Director's review and decision regarding the findings and recommendations of the authorized officer.	After NEPA process
(8) Transmit the case file to the Secretary of the Interior.	After NEPA process
(9) Publish a public land order or a notice of denial signed by the Secretary of the Interior. If the application seeks a national defense withdrawal that may only be made by an Act of Congress, the Secretary will transmit to the Congress proposed legislation along with the Secretary's recommendations, and documentation relating thereto.	After NEPA process
Procedures Listed Under U.S. Code Section 2310.1-2 Submission of Applications	How/When Addressed
(a) Applications for the making, modification or extension of a withdrawal shall be submitted for filing in the proper BLM office.	A complete application will be filed after the NEPA process
(b) Before the authorized officer can take action on a withdrawal proposal, a withdrawal application in support thereof shall be submitted. The application may be submitted simultaneously with the withdrawal proposal.	After NEPA process
(c) The application must contain the information listed below: (1) The name and address of the applicant. Where the organization intending to use the lands is different from the applicant, the name and address of such using agency shall also be included.	EIS: Cover Page

TABLE I-1 (Continued)
FEDERAL REQUIREMENTS FOR WITHDRAWAL PROCEDURES

(2) If the applicant is a department or agency other than the Department of the Interior, a statement of the delegation or delegations of authority of the official acting on behalf of the department or agency submitting the application must be provided, substantiating that the official is empowered to act on behalf of the head of the department or agency in connection with all matters pertaining to the application.	EIS: Section 1.3.2
(3) If the lands which are subject to an application are wholly or partially under the administration of any department or agency other than the Department of the Interior, the Secretary shall make or modify a withdrawal only with the consent of the head of the department or agency concerned.	Not applicable
(4) The type of withdrawal action that is being requested and whether the application pertains to the making, extension or modification of a withdrawal.	EIS: Section 2.1.1
(5) A description of the lands involved in the application, which shall consist of the following: (i) A legal description of the entire land area that falls within the exterior boundaries of the affected area and the total acreage of such lands; (ii) A legal description of the lands, federal or otherwise, within the exterior boundaries that are to be excepted from the requested action, and after deducting the total acreage of all the excepted lands, the net remaining acreage of all federal lands (as well as all non-federal lands which, if they should be returned to or should pass to federal ownership, would become subject to the withdrawal) within the exterior boundaries of the affected land areas; (iii) In the case of a national defense withdrawal which can only be made by an Act of Congress, sections 3(2) and 3(3) of the Act of February 28, 1958 (43 U.S.C. 157 (2), (3)) shall be complied with in lieu of paragraphs (c)(5) (i) and (ii) of this section.	EIS: Section 2.1
(6) "If the application is for a withdrawal that would overlap, or that would add lands to one or more existing withdrawals, the application shall also contain..."	Not applicable
(7) The public purpose or statutory program for which the lands would be withdrawn. In the case of applications that are not classified for national security reasons, an analysis of the manner in which the lands as well as their natural resources and resource values would be used to implement the purpose or program shall be provided.	EIS: Section 1.2 EIS: All
(8) The extent to which the lands embraced in the application are requested to be withheld from settlement, sale, location or entry under the public land laws, including the mining laws, together with the extent to which, and the time during which, the lands involved in the application would be temporarily segregated	EIS: Chapter 2 (Alternatives 1, 2, 3)
(9) The type of temporary land use that, at the discretion of the authorized officer, may be permitted or allowed during the segregation period	EIS: Chapter 2 (Alternatives 1, 2, 3)

TABLE 1-1 (Continued)
FEDERAL REQUIREMENTS FOR WITHDRAWAL PROCEDURES

(10) An analysis and explanation of why neither a right-of-way under section 507 of the Act (43 U.S.C. 1767), nor a cooperative agreement under sections 302(b) (43 U.S.C. 1732(b)) and 307(b) (43 U.S.C. 1737(b)) of the act would adequately provide for the proposed use.	EIS: Section 2.6
(11) The duration of the withdrawal, with a statement in justification thereof.	Section 2.1.1
(12) A statement as to whether any suitable alternative sites are available for the proposed use or for uses which the requested withdrawal action would displace. The statement shall include a study comparing the projected costs of obtaining each alternative site in suitable condition for the intended use, as well as the projected costs of obtaining and developing each alternative site for uses that the requested withdrawal action would displace.	EIS: Section 2.6 Alternatives Analysis Study
(13) A statement as to whether water will or will not be needed to fulfill the purpose of the requested withdrawal action.	EIS: Section 2.1.2
(14) The place where records relating to the application can be examined by interested persons.	After NEPA process

Notes:

Army U.S. Department of the Army
 BLM Bureau of Land Management
 EIS Environmental Impact Statement
 NEPA National Environmental Policy Act
 U.S.C. United States Code

1.2.6 MTARNG TRAINING RANGE REQUIREMENTS

Within the Department of the Army, three types of training areas support progressively higher levels of proficiency: local training areas, major training areas, and combat training centers. The LHTA is classified as a "Local Training Area." Local training areas support individual, crew and unit collective training using a combination of standard ranges that provide the flexibility to support a variety of weapons and weapon systems. Stationary and moving targets, remotely controlled and supplemented with battlefield weapons-effects simulators, provide opportunities to train under challenging conditions. The target arrays portray a threat environment. Units conduct training on local training area facilities under their installation's direct purview. These are usually limited in size (Army 2004a). Army recommendations for size of training area adequate to meet the needs of the MTARNG is a minimum of 19,274 acres (Table 1-2). Area need calculations are provided in Appendix C.

TABLE 1-2 AREA REQUIREMENTS FOR MTARNG TRAINING	
Training Activity	Area Need (Acres, Unless Otherwise Noted)
Drop Zone	185
Small Arms	250
Impact Area	525
Surface Danger Zone	10,000
Tracked Vehicle	5 kilometers
Bivouac Area	10
Maneuver Training	19,274
Dismounted Infantry Tactics Areas	17,297
Land Navigation Courses	2,400

The suitable size of military maneuver/training areas are defined in the Department of the Army Pamphlet 415-28, Guide to Real Property Category Codes based on training needs as determined by mission requirements (Army 2004b). In the case of the LHTA, the MTARNG requires "maneuver/training areas" capable of use for impact and detonation of ordnance and for land-intensive training of both light and heavy forces. In addition, the LHTA must contain impact areas suitable for receiving both "duded" and "non-duded" ordnance. These terms and suitable areas are defined in Army Pamphlet 415-28 as:

Light forces (light infantry) – space for ground and air combat forces to train movements and tactics as specified in the unit's Army Training and Evaluation Program. The "light" designation refers to areas where maneuver may be restricted to only small units or units having only wheeled vehicles. "Light" maneuver/training areas cannot be used by "heavy" forces.

Heavy forces (armor and mechanized infantry) – space for ground and air combat forces to train movements and tactics as specified in the unit's Army Training and Evaluation Program. The "heavy" designation refers to areas where maneuver is unrestricted and can consist of all types of vehicles and equipment, including tracked vehicles. "Heavy" maneuver/training areas can be used by "light" forces.

Duded Impact Area – an area having designated boundaries within which all dud-producing ordnance will detonate or impact. This area may include vehicle bodies that serve as targets for artillery/mortar direct and indirect fire. Impact areas containing unexploded ordnance may not be used for maneuver.

Non-Duded Impact Area – an area having designated boundaries within which ordnance that does not produce duds. This area is composed mostly of the safety fans for small arms ranges. These impact areas may be used for maneuver, at the cost of curtailing use of weapons ranges.

Maneuver/training area requirements for the activities described above are:

- Sufficient contiguous maneuver/training areas large enough to support the largest collective training event conducted at home station (Table 1-2 and Appendix C)
- Sufficient airspace for airborne intelligence-gathering platforms, close air support, air defense and field artillery, and mortar firing as part of the combined arms team

Until recently, Army requirements specified the dimensions of maneuver/training areas required for each task (usually as a rectangle in square kilometers). The Army also specified the training duration and frequency by task. This is no longer the case, and training area dimensions are now recommended rather than required. Unit commanders are required to analyze their unit mission-essential task list, assess their unit's task proficiency, estimate the resources available, and plan their training accordingly (Army 2004c). The impact of a maneuver/training area shortfall on unit training is the commander's judgment guided by his experience and considerations identified in Army Training Circular 24-8 (Army 2004a) and Army Pamphlet 415-28 (Army 2004b). The degree to which land deficiencies constrain training and how those training constraints, in turn, affect training readiness are command judgments. Commanders must weigh the cost of accepting maneuver/training area shortfalls against assessed reduction in training readiness. If available resources do not permit achieving training readiness, the commander develops reports (such as a Land Use Requirements Study and an Alternatives Analysis Study) on the training readiness impact through appropriate channels.

The MTARNG is headquartered at the Fort William Henry Harrison Training Center in Helena, Montana. Fort Harrison provides billeting facilities for up to two battalions of 800 soldiers at one time. The LHTA is necessary to the MTARNG Training Center for live fire and vehicular maneuver training and offers the topographic diversity critical to simulating battlefield conditions. To "train as you will fight" is the fundamental principle upon which all military training is based. Because of its size, topographic challenges and nearby billeting facilities at Fort Harrison, the LHTA is currently one of the top 20 Maneuver Training Centers in the country (MTARNG 2004a).

1.3 LAND WITHDRAWAL PROCESS

Withdrawal means “(1) withholding an area of federal land from settlement, sale, location or entry, under some or all of the general land laws, for the purpose of limiting activity under those laws in order to maintain other public values in the area or reserving an area for a particular public purpose or program; and/or (2) transferring jurisdiction over an area of federal land, other than property governed by the *Federal Property and Administrative Services Act*, as amended (40 U.S. Code 472) from one department, bureau or agency to another department, bureau or agency” (FLPMA, sec.103[j]). In the case of the proposed LHTA withdrawal, both definitions of withdrawal apply, and the transfer of jurisdiction over federal land is from the BLM to the Army. The process for effecting the proposed land withdrawal requires a synchronized effort on the part of several agencies within the Departments of the Army and Interior (Figure 1-3).

Upon completion of the Legislative EIS and receipt of a complete withdrawal application from the U.S. Army Corps of Engineers, the BLM Montana State Director would submit findings and recommendations to the BLM Director and the Secretary of the Interior. The BLM, in coordination with the Army, would draft the proposed legislation and is responsible for including all appropriate aspects of jurisdiction and natural resource management for the proposed military reservation based on the Finding and Recommendations report. The Secretary of the Interior would submit a legislative recommendation to Congress (after receiving Office of Management and Budget clearance). Neither the BLM nor the Department of the Interior has the authority to approve or deny a military application for a legislative withdrawal; only Congress has that authority under Code of Federal Regulations 43 2310.3-2[f] (BLM 2000).

1.3.1 APPLICABLE LAW AND REGULATIONS

The process for effecting withdrawal of public lands within the LHTA is governed by the laws and regulations listed below.

- The *Engle Act of 1958* which requires an Act of Congress for military withdrawals encompassing more than 5,000 acres. The *Engle Act* provides the umbrella legislative authority for the LHTA withdrawal.
- The *Federal Lands Policy Management Act* (FLPMA) was enacted by Congress to establish public land policy; to establish guidelines for its administration; to provide for the management, protection, development, and enhancement of the public lands; and for other purposes. It is the primary legislation guiding the BLM in its responsibility to manage public lands and resources in a combination of ways that best serve the present and future needs of the American people. Upon completion of the NEPA process, in accordance with Section 1714 (c) of FLPMA, the BLM would prepare a report of Findings and Recommendations for the Secretary of the Interior and the Army. The report would include a discussion of the issues, a summary of the withdrawal application (which incorporates the EIS by reference), an evaluation of problems and facts, a discussion of conclusions, and recommendations for a specific course of action. If the Department of the Interior determines that the withdrawal is appropriate, it will submit legislation recommending the withdrawal to Congress for consideration.

MONTANA ARMY NATIONAL GUARD RESPONSIBILITIES

- Conduct a Land Use Requirement Study
- Conduct an Alternative Analysis Study
- Obtain a Waiver from the DoD Land Acquisition Moratorium
- **Coordinate with the BLM**
- Submit a preliminary Withdrawal Application to BLM
- Army Corps of Engineers evaluate real estate for potential acquisitions
- Conduct an Environmental Impact Statement
- Select a Preferred Alternative
- Submit a completed Withdrawal Application to BLM

DEPARTMENT OF DEFENSE RESPONSIBILITIES

- Army Major Command makes determination regarding validity of the proposed withdrawal
- Department of the Army makes determination regarding validity of the proposed withdrawal
- Secretary of the Army approves or disapproves the proposed withdrawal.
- Secretary of the Army (via the Army Corps of Engineers) licenses the property to the Montana Army Guard
- **Legislation consultation with DOI**

BUREAU OF LAND MANAGEMENT RESPONSIBILITIES

- **Coordinate with the MTARNG**
- Receive preliminary Withdrawal Application
- Segregate proposed withdrawal area from land available for mineral claims
- Conduct Environmental Impact Statement
- Select a Preferred Alternative
- Complete a report to the Secretary of Interior with recommendation regarding the Withdrawal Application
- Prepare legislation and submit to Secretary of Interior

DEPARTMENT OF INTERIOR RESPONSIBILITIES

- Review BLM recommendation and make determination regarding proposed legislation
- **Legislation consultation with DoD**
- Submit proposed legislation to Congress

CONGRESSIONAL RESPONSIBILITIES

- Make determination regarding enactment of legislation
- If legislation is approved, submit to President for signing.

MTARNG = Montana Army National Guard

DoD = Department of Defense

BLM = Bureau of Land Management

DOI = Department of Interior

 Tetra Tech EM Inc.

LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

**FIGURE 1-3
LAND WITHDRAWAL PROCESS
FLOW CHART SHOWING AGENCY
RESPONSIBILITIES**

The Land Withdrawal Regulations (43 CFR Part 2300) describe rules and procedures implementing the Secretary of the Interior's authority to process a land withdrawal application. The application for withdrawal of the LHTA would be processed in accordance with 43 CFR Part 2300.

- Army Regulation AR 405-10 (*Acquisition of Real Property and Interests Therein*) sets forth the authority, policy responsibility, and procedures for the acquisition of real property and interests therein for military purposes by the Army.
- National Guard Regulation NGR 405-80 (*Army National Guard Program*) prescribes policies, procedures, and responsibilities for the acquisition, management, reporting of federal owned/leased real estate utilized by the Army National Guard.

1.3.2 AGENCY ROLES AND RESPONSIBILITIES

The BLM's mission, as stated in Section 102(7) of the *Federal Land Policy and Management Act*, is to manage public lands for multiple use and sustained yield unless otherwise specified by law. Under the *Sikes Act*, the MTARNG is required to adhere to provisions of the *Multiple Use Sustained Yield Act of 1960* (16 U.S. Code 528-531). The objective of the BLM and the MTARNG is to accommodate other uses by another federal agency, if appropriate, with minimum disruption to existing land users, rights holders, and minimal impacts on the environment (BLM 2000).

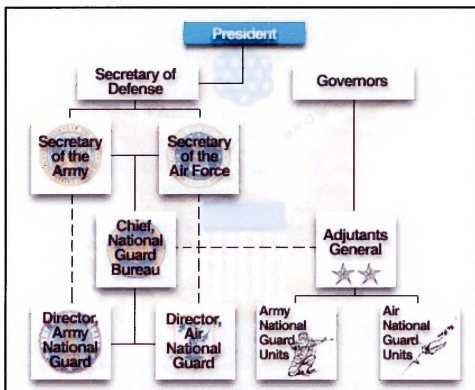
The proposed withdrawal would be facilitated primarily by the MTARNG and the BLM Butte Field Office through a memorandum of understanding with assistance and approval from the Army and the Department of the Interior. In addition, several local, state and federal agencies would also play a role in assisting the MTARNG and BLM with land management responsibilities and implementation of the proposed action (Figure 1-3). The proposed withdrawal would be conducted in accordance with the principal laws and regulations described in Section 1.3.1 that define agency roles and responsibilities. This section describes expected agency roles and responsibilities throughout the withdrawal process.

U.S. DEPARTMENT OF THE ARMY

Under the proposed action, the Army would be the withdrawal applicant and the LHTA agency of jurisdiction for the MTARNG. The Army consists of three components: the active army, the U.S. Army National Guard, and the U.S. Army Reserve. Each component has unique characteristics, but all share common doctrine, regulations, and training. The National Guard has a unique dual-mission that consists of both federal and state roles. At the federal level, there is a Chief of National Guard Bureau, who oversees both the Army and Air Guards (Figure 1-4).

Figure I-4

Organizational Structure Department of the Army and National Guard



Reporting to the Chief of National Guard Bureau are directors for both Army and Air, who each manage full-time staffs. The Army National Guard acquires, manages, and distributes resources; develops and administers policies and programs; and serves as the channel of communication between the Army and the National Guard of the states, territories, and District of Columbia.

The **U.S. Army Corps of Engineers** (Corps of Engineers) serves as the real estate agent for the Army. When a State National Guard proposal involves explosive ordnance, the proposed use may only be authorized by a withdrawal which is requested by the Corps of Engineers on behalf of the State National Guard with either Army or the Department of the Air Force as the federal agency having administrative jurisdiction over the withdrawn lands. Under the proposed action, the Corps of Engineers, represented by the Seattle District Corps of Engineers, would be the real estate agent for the Army.

The primary role of the Corps of Engineers in the withdrawal process would be to evaluate real estate for potential acquisition in accordance with 32 CFR 644.25 to the Army. The report would contain recommendations regarding non-military land use management and acquisition. The proposed withdrawal of LHTA lands is necessitated by the presence of unexploded ordnance. The functions of the Corps of Engineers in the LHTA withdrawal process would be as follows:

- Provide advice and assistance to commanders and staff members on real estate matters. Perform real estate activities for the military and civil works mission of the Army
- Prepare real estate reports in the planning phases of projects establishing real estate costs and schedules
- Advise commanders and their staffs on real estate valuation issues; prepare real estate appraisals
- Acquire land or interests in land
- Prepare maps and descriptions for acquisition actions; oversee real estate technical aspects of contracted efforts; and maintain real property title documents, records, and maps
- Provide title information on request

The Corps of Engineers would also be responsible for submitting the withdrawal application to the Assistant Secretary of the Army responsible for Manpower, Reserve, Affairs, and Logistics for approval. The principal duty of the Assistant Secretary of the Army for Manpower, Reserve, Affairs, and Logistics is the overall supervision of manpower and reserve component affairs. This branch of the Army is responsible for setting long-range, strategic direction and policy governing the management, utilization, and potential of all civilian employees and active duty military and reserves. Upon receipt of approval from the Assistant Secretary of the Army, the Corps of Engineers would send the withdrawal application to the BLM State Director. The Department of the Interior would draft the necessary legislation and transmit the legislative proposal to Congress.

The **Chief, National Guard Bureau** is responsible for performing the following functions relative to a withdrawal:

- Ensure efficient use of Army-controlled land, facilities, and space under National Guard Bureau control
- Cooperate with the General Services Administration and Headquarters, Army in completing surveys
- Furnish technical assistance and guidance to installations and activities on real property use
- Make staff visits to installations, as necessary, to assess real property use
- Determine what real estate can be made available for non-Army use

The **Montana Army National Guard** has a primary role in directing activities throughout the withdrawal and the Legislative EIS process. The MTARNG is responsible for the following:

- Recognize and define the need for the withdrawal
- Plan for, initiate, and carry out measures in support of the withdrawal
- Obtain data
- Prepare and submit documentation, such as the Land Use Requirements Study and the Alternatives Analysis Study, and track its review throughout the Army, National Guard Bureau and MTARNG
- Initiate programming for funding
- Publish a Notice of Intent to withdraw federal land
- Undertake the preparation of environmental compliance documentation

The **Montana Adjutant General** is responsible for ensuring that all installation land users are aware of, and comply with procedures, requirements, or applicable laws and regulations that accomplish objectives of the proposed withdrawal. The Adjutant General also ensures coordination of projects and construction among environmental, training, and engineering staffs. The Adjutant General would be responsible for performing the following functions to facilitate the withdrawal:

- Ensure annual utilization surveys are conducted in accordance with Army Regulation 405-70 (Utilization of Real Estate)
- Initiate action to dispose of real property that is no longer required for training of the MTARNG; in the case of the LHTA, the Adjutant General would initiate disposal action by notifying the Corps of Engineers. The Corps of Engineers would notify the BLM of the change in status and offer the BLM the option of re-assuming administration of the LHTA before other disposal options are considered.
- Submit required reports (for example, facility inventory and stationing plan, inventory of military real property, annual utilization survey, and letter reports on damage and/or destruction of real

property caused by fire, explosion, or any natural disaster), to include preparation of environmental documentation

- Ensure proper transfer of accountability to or from a U.S. Property and Fiscal Officer (USP&FO) is accomplished, as appropriate; the USP&FO is the official accountable for federal real estate used by a State National Guard. The principal responsibilities of the USP&FO is to account for real property for which a Department of Defense Form 1354 (Transfer and Acceptance of Military Real Property) has been executed.

The **MTARNG Environmental Office** is responsible for preparation and implementation of all natural and cultural resource management plans under the *Sikes Act*. The environmental office acts as the direct "vehicle" for accomplishing natural resources responsibilities of the Adjutant General. The environmental office also manages the NEPA process; characterizes flora, fauna, air and water quality; identifies compliance needs; and advises the MTARNG on the best ways to comply with federal and state environmental laws and regulations. It also provides technical assistance to MTARNG personnel including developing projects, securing permits, conducting field studies, providing environmental awareness materials, locating and mapping natural and cultural resources, preparing plans, and revising the natural and cultural resource management plans every five years.

MTARNG Training Center maintains operational control of LHTA. The training center maintains liaisons with other military commands, and federal, state, county, and local agencies. The training center coordinates training activities, planning, and operations with the J-3 (meaning domestic) Operations and Plans Officer and the environmental office to ensure there are no conflicts with environmental or natural resource priorities or legal requirements.

U.S. BUREAU OF LAND MANAGEMENT

Title to public lands rests with the U.S. Government under the control of Congress. Congress has indicated by statute that public lands are available for a variety of uses, including use by other federal agencies and departments. Through the *Federal Lands Policy and Management Act*, Congress has placed public lands under the jurisdiction of the Secretary of the Interior, to be administered by the BLM consistent with all the public lands laws and regulations.

The BLM's mission, as stated in Sec. 102(7) of the *Federal Lands Policy and Management Act*, is the management of the public lands for multiple use and sustained yield unless otherwise specified by law. The objective of BLM in the withdrawal process is to accommodate the use by another federal agency, such as the Army, with minimum disruption of existing land users and minimal impacts on the environment.

BLM is a cooperating agency in the development of this EIS. Under the proposed withdrawal, the BLM is responsible for ensuring resource management plan conformance, public safety, adequate evaluation of environmental effects, and effects on other public land users relative to the proposed land withdrawal. Therefore, the BLM, representing the Department of the Interior, also has a primary role in directing

activities throughout the withdrawal and EIS process. The withdrawal application is submitted to the Department of the Interior and BLM who published a public notice of the proposal in the Federal Register. BLM participates in the scoping process, provides information to the MTARNG, reviews draft documents, and participates in the development of the preferred alternative. Once the EIS is completed, the Butte Field Office of the BLM will develop findings and recommendations and submit them to the Secretary of the Interior through the Montana State Director and the BLM Director. The BLM Washington office would develop draft legislation, in coordination with the Army and the National Guard Bureau, for submission to Congress.

Upon approval of the withdrawal by Congress, the Butte Field Office would incorporate the management outlined in the legislation into the Butte Resource Management Plan as a plan maintenance action.

MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION (DNRC)

The DNRC is a cooperating agency for this EIS in a review capacity. The DNRC also provides guidance and information upon request. With respect to the LHTA, the DNRC regulates the development and use of water resources and manages two sections of state-owned school trust land within the LHTA under the direction of the State Board of Land Commissioners.

BROADWATER COUNTY

Broadwater County is a cooperating agency on this EIS in a review capacity.

1.4 DECISIONS TO BE MADE

This EIS provides the analysis and documentation of environmental effects to enable Congress to make an informed choice regarding the LHTA land withdrawal. The initial withdrawal proposal is presented as Alternative 1. Alternatives to Alternative 1 were developed based on comments received by agencies and the public during the scoping process. The MTARNG and BLM have selected Alternative 3 as the preferred alternative. With the exception of the no-action alternative, the boundaries and size of the proposed withdrawal area are common to all alternatives. The specific alternatives analyzed include:

Alternative 1 (Proposed Action). The size of the LHTA would be reduced from its current size by about 71 acres. Portions of the eastern and northern boundaries of the existing LHTA would remain public domain. With the exception of minerals, all resource management and control of resource uses would be the responsibility of the Army. MTARNG management of resource uses would be based strictly on Army guidance and the Sikes Act.

Alternative 2. The boundaries of LHTA would be the same as those in Alternative 1. Agency management of resources and activities in the LHTA would be divided between the MTARNG (closure area) and the BLM (nonclosure area). Minerals and grazing throughout the LHTA would be managed by the BLM; all access and safety issues would be managed by the MTARNG.

Alternative 3 (Preferred Alternative). The boundaries of LHTA would be the same as those in Alternative 1. With the exception of minerals, all resource management and control of resource uses would be the responsibility of the Army. MTARNG management of resource uses would be modeled after existing management practices of the BLM.

Alternative 4 (No Action). The withdrawal of federal land within the LHTA would not take place and MTARNG use of the LHTA would cease before or on March 26, 2014. An environmental analysis of the "no action" alternative is required by Council on Environmental Quality regulations to serve as a benchmark against which other alternatives can be evaluated.

1.5 SCOPE OF THE LEGISLATIVE EIS

This document provides Congress with information to make environmentally informed decisions regarding the LHTA land withdrawal. To the degree possible given existing data, it qualitatively and quantitatively evaluates potential environmental impacts of implementing the alternatives. Because this action is a proposal for legislation, the Army and the BLM have mutually agreed to use the Legislative EIS process pursuant to 40 CFR 1506.8 to comply with the requirements of the *Federal Land Policy and Management Act* and NEPA. This EIS is being prepared in cooperation with the BLM and local government. Therefore, pursuant to the Legislative EIS process, the Army will prepare a final EIS and a Notice of Availability of the EIS will be published in the *Federal Register*. However, there will not be a Record of Decision, because the decision to grant or deny the withdrawal is made by the U.S. Congress and, if granted, signed into law by the President.

1.5.1 REQUIREMENTS OF NEPA

This EIS is prepared in compliance with the NEPA of 1969 (PL 91-190, 42 U.S. Code 4321-4347, as amended), the Council on Environmental Quality *Regulations for Implementing the Procedural Provisions of NEPA* [40 CFR 1500-1508], Army Regulation (AR) 200-2, *Environmental Effects of Army Actions* (Army 1988), 32 CFR 651 *Environmental Analysis of Army Actions* (29Mar02), the National Guard Bureau NEPA Handbook *Guidance on preparing Environmental Documentation for Army National Guard Actions in Compliance with the National Environmental Policy Act of 1969* (June 2006), and the BLM NEPA Handbook H-1790-1 (BLM 1988).

1.5.2 AGENCY AND PUBLIC PARTICIPATION IN THE LEGISLATIVE EIS

Public involvement for scoping the draft environmental impact analysis began September 2003 and included stakeholder discussion and recommendations ending in March 2005. Public meetings were scheduled in communities potentially affected by activities on the LHTA to solicit public input for preparation of a Legislative EIS on the land withdrawal and to obtain an understanding of the views of interested federal and state agencies, special interest groups, and private individuals regarding issues, alternatives, and environmental justice concerns to be addressed in the EIS.

Public involvement opportunities upon release of the Draft Legislative EIS included distribution of this document on compact disk to all interested parties, two public hearings, and a 90-day public comment period. The public comment period began when a Notice of Availability of the EIS was published in the *Federal Register*. Public comments were solicited in the form of written or e-mail comments, and as verbal comments at public hearings. A public information fact sheet summarizing the salient points of this document was distributed to all interested parties. Additional public information was and continues to be available at the following website: www.limestonehillswithdrawal.com.

Throughout the scoping period, the MTARNG and BLM held four public scoping meetings, eight stakeholder working group meetings, and an open house/tour of the LHTA. Public scoping meetings took place at the locations and times shown in Table 1-3.

TABLE 1-3 PUBLIC SCOPING MEETING SUMMARY		
Date	Location	Time
September 19, 2003	State Capitol Building, Helena, MT	Open House: 3:30 – 5:30 p.m. Meeting 7:00 – 9:00 p.m.
September 20, 2003	Broadwater Community School Library, Townsend, MT	Open House: 3:30 – 5:30 p.m. Meeting 7:00 – 9:00 p.m.
June 29, 2004	Broadwater Community School Library, Townsend, MT	7:00 – 8:30 p.m.
June 30, 2004	Helena Chamber of Commerce, Helena, MT	7:00 – 8:30 p.m.

The meetings were organized to include presentations by MTARNG representatives. Participants were given the opportunity to meet one-on-one with MTARNG and BLM representatives to ask questions. Comments were solicited in a manner that provided an opportunity for everyone attending the public meeting to provide input. A court reporter also attended to transcribe formal comments. Comments are included in the LHTA Legislative Environmental Impact Statement Scoping Report (MTARNG 2005a). The September scoping meetings were also televised on Helena Civic Television. Information collected during formal public comment and informal stakeholder discussion meetings was used to develop Alternatives 2 and 3. Alternative 3 is the agency preferred alternative.

STAKEHOLDER WORKING GROUP MEETINGS

A stakeholder working group was created to complement the public scoping meetings and the effort to obtain more public comment and involvement throughout the LHTA withdrawal process.

Stakeholder working group meetings were originally limited to one or two meetings in January 2004 and a few more throughout the rest of the EIS process. Due to the interest of the members and the complexity of some of the issues, those meetings continued through July 2004, when the stakeholder working group asked to meet in topic-specific subgroups to discuss alternatives to the proposed action. A series of sub-group meetings focused on grazing and range management; mining and minerals management; and access, wildlife habitat, recreation, and inholdings were held between August and December 2004. Meeting minutes are included in the *LHTA Legislative EIS Scoping Report* (MTARNG 2005a). The last stakeholder working group meeting was in March 2005 when agency representatives presented a stakeholder-developed alternative for review and discussion. Stakeholder working group meetings took place at the dates and locations shown in Table 1-4.

**TABLE 1-4
STAKEHOLDER WORKING GROUP MEETING DATES AND LOCATIONS**

Date	Location	Time
January 7, 2004	Broadwater Community School Library, Townsend, MT	7:00 – 9:00 p.m.
January 22, 2004	Broadwater Community School Library, Townsend, MT	7:00 – 9:00 p.m.
February 4, 2004	Broadwater County Courthouse, Townsend, MT	7:00 – 9:00 p.m.
June 28, 2004	Broadwater County Courthouse, Townsend, MT	7:00 – 9:00 p.m.
July 14, 2004	Broadwater County Courthouse, Townsend, MT	7:00 – 9:00 p.m.
September 30, 2004	Power Block Building, Helena, MT	7:00 – 9:00 p.m.
December 8, 2004	Broadwater County Courthouse, Townsend, MT	7:00 – 9:00 p.m.
March 9, 2005	Broadwater Community School Library, Townsend, MT	7:00 – 9:00 p.m.

The stakeholder working group adhered to the meeting requirements of the *Federal Advisory Committee Act (FACA)* to ensure open and fair involvement for all members of the public and to prevent undue influence over the decision making process. All interested people were included on the stakeholder working group. Meetings were announced in press releases to the *Townsend Star* and notices were sent to everyone on the project mailing list, as well as being listed on the public website.

LHTA OPEN HOUSE/TOUR

On April 14, 2004, the MTARNG hosted an open house featuring vehicle-guided tours of the LHTA. Representatives from the MTARNG and BLM were on-site to answer questions. This open house/tour was advertised as follows:

- Meeting invitations sent to over 250 individuals on the LHTA project mailing list
- Published advertisements in the *Helena Independent Record* and the *Townsend Star*
- Submitted press releases to the *Helena Independent Record* and *Townsend Star*

WRITTEN SCOPING COMMENTS

In addition to receiving verbal comments during the public scoping meetings, the MTARNG and BLM also received written comments through the mail, fax, and e-mail. Written comments summarized in this report were received during the scoping period. Written comments are included in the *LHTA Legislative EIS Scoping Report* (MTARNG 2005a).

MAJOR ISSUES OF CONCERN IDENTIFIED IN SCOPING

The following is a list of issues and/or concerns that were expressed during scoping via meetings and letters. All issues, concerns, and recommendations are considered in this EIS. Most concerns and recommendations were used to develop alternatives 2 and 3 (Chapter 2). Some public comments are addressed in Section 2.6.2 (Alternatives Considered but Dismissed). The resource analysis of

environmental consequences in Chapter 4 considers issues and concerns as they relate to each alternative.

A detailed summary of scoping issues and concerns is provided in the LHTA *Legislative Environmental Impact Statement Scoping Report* which is available on the LHTA Land Withdrawal public website www.limestonehillswithdrawal.com (MTARNG 2005a).

General Land Use and Land Ownership

- Affect of the process of assessing real estate for potential acquisition on property rights and uses
- Changes in management procedures and requirements of land use in the LHTA caused by transferring management responsibility from the BLM to the MTARNG
- Impacts from change in resource protection practices
- Impacts to private land within the proposed withdrawal
- Impact of the withdrawal on long term reclamation plans for the LHTA
- Changes in the location and rate of unexploded ordnance clean-up

Mineral Resources

- Impact of the withdrawal on the security of mining interests in the LHTA
- Potential changes in dispute resolution regarding claims on mining claims
- Changes in mining claim status

Grazing

- Impact of changing agencies and the grazing allotment rules/application process
- Change in grazing fees on ranches and on ranch property values
- Qualifications of the Department of Defense for grazing and range management

Cultural Resources

- Potential for the Department of Defense to restrict access to cultural sites that are now open
- Effectiveness of the Department of Defense in preventing destruction of cultural sites

Wildlife

- Impacts to wildlife by fencing the LHTA
- Impacts from changes in wildlife management
- Impacts from continued or changes in mining operations on wildlife and wildlife habitat
- Changes in the winter closure policy under new management

Vegetation

- Changes in fire risk impacts to adjacent land
- Changes in weed management and how that would impact browse species

Recreation

- Impacts to hunter opportunity on both public and private lands in and adjacent to the proposed withdrawal boundary

Social and Economic Resources

- Potential for loss of income to Townsend if the MTARNG stops using the LHTA
- Loss of payments in lieu of taxes from the BLM to Broadwater County
- Other impacts to city and county property tax revenues
- Potential for an increase to County costs, such as for road maintenance and public access
- Affect on local property values
- Ability of the Department of Defense to interact effectively and positively with agencies, including BLM, the Montana Department of Natural Resources and Conservation, and Broadwater County
- Potential for land exchange or purchasing private land to replace loss of public land

1.5.3 OTHER ENVIRONMENTAL ANALYSES AND DECISIONS RELEVANT TO THE ACTION

The BLM will prepare a resource management plan amendment for the Limestone Hills Training Area to address the degree of public use of resources and the BLM resource management responsibilities on land withdrawn for military use at the LHTA.

1.6 OTHER REGULATORY REQUIREMENTS

In addition to NEPA and the land withdrawal requirements, other federal statutes that may apply to the proposed land withdrawal are listed in Table 1-5.

TABLE 1-5 OTHER MAJOR FEDERAL ENVIRONMENTAL STATUTES, REGULATIONS, AND EXECUTIVE ORDERS APPLICABLE TO FEDERAL PROJECTS	
Environmental Resource	Statutes
Air	<i>Clean Air Act (CAA)</i> of 1970, as amended in 1977 (PL 95-95) and 1990 (PL 91-604) 4- CFR 52-99
Noise	<i>Noise Control Act</i> of 1972 (PL 92-574) and Amendments of 1978 (PL 95-609) 40 CFR 201-211
Water	<i>Federal Water Pollution Control Act (FWPCA)</i> of 1972 (PL 92-500) and Amendments: <i>Clean Water Act</i> of 1977 (PL 95-217), 40 CFR 100-140 and <i>Water Quality Act</i> of 1987 (PL 100-4), 40 CFR 401-471, and <i>Safe Drinking Water Act</i> of 1972 (PL 95-523) 40 CFR 141-149 and Amendments of 1986 (PL 99-339) and 1996 (PL 104-182)
Land	FLPMA of 1976 (PL 94-579); <i>Engle Act</i> of 1958 (43 USC 155); <i>Military Lands Withdrawal Act</i> (16 USC 460ff); <i>Land Withdrawal Regulations</i> (43 CFR Part 2300); <i>Public Rangelands Improvement Act</i> of 1978; <i>National Forest Management Act</i> of 1976 (PL 94-588); <i>Taylor Grazing Act</i> (43 USC 315)
Biological Resources	<i>Migratory Bird Treaty Act</i> of 1918; <i>Bald and Golden Eagle Protection Act</i> of 1940; <i>Fish and Wildlife Coordination Act</i> of 1958 (PL 85-654); <i>Fish and Wildlife Act</i> (PL 85-624); <i>Sikes Act</i> of 1960 (PL 86-797), 1974 (PL 93-205) and Amendments 1986 (PL 99-561), 1997 (PL 105-85, Title XXIX); <i>Endangered Species Act</i> of 1973 (PL 93-205) and Amendments 1988 (PL 100-478); <i>Fish and Wildlife Conservation Act</i> of 1980 (PL 96-366); <i>Lacey Act</i> Amendments of 1981 (PL 97-79)
Wetlands and Floodplains	Section 401 and 404 of <i>Federal Water Pollution Control Act</i> of 1972 (PL 92-500), 40 CFR 100-149; Executive Order (EO) 11988, <i>Floodplain Management-1977</i> ; EO 11990, <i>Protection of Wetlands-1977</i> ; <i>Emergency Wetlands Resources Act</i> of 1986 (PL 99-645); <i>North American Wetlands Conservation Act</i> of 1989 (PL 101-233); Section 10 of <i>River and Harbor Act</i> of 1899 (33 USC 403; 52 Stat. 802)
Cultural Resources	<i>National Historic Preservation Act (NHPA)</i> of 1966 (PL 89-665) and Amendments of 1980 (PL 96-515) and 1992 (PL 102-575); EO 11593, <i>Protection and Enhancement of the Cultural Environment-1971</i> ; EO 13007, <i>Indian Sacred Sites-1996</i> ; <i>Archaeological and Historic Preservation Act</i> of 1974; <i>American Indian Religious Freedom Act (AIRFA)</i> of 1978 (PL 95-341); <i>Antiquities Act</i> of 1906; <i>Archaeological Resources Protection Act (ARPA)</i> of 1979 (PL 96-96); <i>Native American Graves Protection and Repatriation Act (NAGPRA)</i> of 1990 (PL 101-601); <i>Montana Human Skeletal Remains and Burial Site Protection Act</i> of 1999 (22-3-301,MCA)
Solid/Hazardous Materials and Waste	<i>Resource Conservation and Recovery Act (RCRA)</i> of 1976 (PL 94-5800) as Amended by (PL 100-582), 40 CFR 240-280; Superfund, 40 CFR 300-399; <i>Toxic Substances Control Act</i> , 40 CFR 702-799; <i>Federal Insecticide, Fungicide, and Rodenticide Act</i> , 40 CFR 162-180; <i>Emergency Planning and Community Right-to-Know Act</i> , 40 CFR 300-399
Socioeconomics and Environmental Justice	EO 12898, <i>Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations</i> ; EO 13045, <i>Protection of Children from Environmental Health Risks and Safety Risks</i>

Notes:

CFR Code of Federal Regulations

USC United States Code

EO

MCA

Executive Order

Montana Code Annotated

PL

Public Law

CHAPTER 2.0

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section describes alternatives for securing a military maneuver training center for use by the Montana Army National Guard (MTARNG). The purpose of this Legislative Environmental Impact Statement (EIS) is to provide information to decision makers that will enable them to decide whether withdrawal of federal land in the LHTA should occur and how the LHTA would be managed. This EIS also describes management alternatives for the LHTA in the event of a withdrawal. Activities common to all action alternatives are described in Section 2.1. Alternative 1 (presented in Section 2.2 as the proposed action) describes the MTARNG's initial proposal for continued use of the Limestone Hills Training Area (LHTA) by means of a military land withdrawal. Two alternatives to the proposed action were developed in response to concerns and suggestions raised by the public and the agencies during scoping. These alternatives address different options for the management of surface use of withdrawn lands (Alternatives 2 and 3 in Sections 2.3 and 2.4). Council on Environmental Quality Regulations, 40 CFR 1501.14(d) requires the MTARNG to analyze the no action alternative. The no action alternative, under which the Department of Army (the Army) would cease military use of the LHTA sometime on or before March 26, 2014 following expiration of the current right-of-way grant from the U.S. Department of the Interior, Bureau of Land Management (BLM). For the most part, the no action alternative describes conditions for the period from the present up until the right-of-way grant is terminated. Several possible scenarios are described under the no action alternative for management of the LHTA after termination of the right-of-way grant. These are similar to existing conditions. The no action alternative is described in Section 2.5. Section 2.6 presents a description of alternatives that were eliminated from further analysis and explains why they were found to be unreasonable. A comparison of alternatives is summarized in Section 2.7.

The MTARNG and BLM can continue to meet the Army's military mission for 25 years into the future while satisfying the requirements of the *Engle Act* by initiating any of three action alternatives (Alternatives 1, 2, or 3) described in this document. All reasonable alternatives are explored and considered. Alternative 3 is the agency's preferred alternative.

Any proposal made to the BLM must be considered within the BLM's existing processes, including land use planning, compliance with the *National Environmental Policy Act of 1969* (NEPA), other natural resource and cultural resource laws and executive orders, and standard public participation practices. The LHTA withdrawal legislation, if supported by the Department of the Interior and approved by Congress, would be incorporated into the BLM *Resource Management Plan* for the Butte Field Office and amend that plan without further analysis.

2.1 ACTIONS COMMON TO ALTERNATIVES 1, 2, AND 3

This section describes common elements of Alternatives 1, 2, and 3. These action alternatives, under provisions of the *Engle Act*, would transfer administrative responsibility of federal land within the LHTA from the BLM to the Army as a land withdrawal for military training purposes. The LHTA is located in Broadwater County, approximately 34 miles south of Helena and 2 miles west of Townsend (Figure 1-1).

The withdrawal area would be comprised of approximately 18,644 acres of federal land that encloses 2,666 additional acres of state-owned and private land for a total of about 21,310 acres within the outer withdrawal boundary. Figure 2-1 shows the existing LHTA boundary and proposed withdrawal boundary. Land proposed for withdrawal is limited to the BLM administered land shown in Figure 2-1 within the withdrawal boundary. It does not include private or state-owned land. The proposed withdrawal area is located within most of Township 6 North, Range 1 East (T6N, R1E); and portions of T7N, R1E; T6N, R2E; and T5N, R1W. Table 2-1 shows the difference in acreage between the LHTA as it is defined by the current right-of-way grant and the proposed withdrawal configuration.

**TABLE 2-1
COMPARISON IN ACRES
OF THE EXISTING LIMESTONE HILLS TRAINING AREA RIGHT-OF-WAY AND
THE PROPOSED WITHDRAWAL AREA**

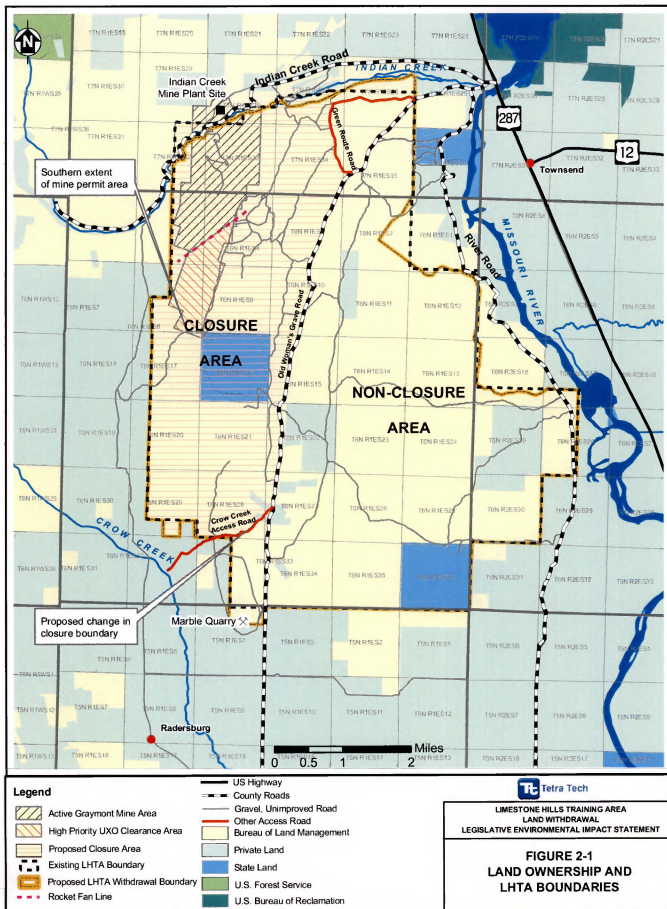
Land Ownership	Existing LHTA & Alternative 4	Proposed LHTA (Action Alternatives)	Explanation for Acreage Difference
Total federal land	18,715	18,644	Excludes small parcels of federal land in the original right-of-way
State land ^a	1,277	1,277	No change
Private inholdings ^a	1,389	1,389	No change
Closed federal and state land in the LHTA	8,573	8,069	About 504 acres of previously closed land would be open to public use.
Total land within withdrawal boundary (federal, state, private)	21,381	21,310	Some parcels of adjacent federal land are eliminated from the LHTA, reducing the LHTA area by about 71 acres

Notes:

^a State lands and private inholdings will be studied by the Army Corps of Engineers for possible acquisition.

LHTA Limestone Hills Training Area

A portion of the withdrawal area would continue to be closed to public access without an escort approved by the MTARNG. This portion includes all land located west of Old Woman's Grave Road, west of Green Route Road, and north of the Crow Creek Access Road, and is referred to in this document as the "closure area." The remaining portion of the withdrawal area would continue to be open for public access and is referred to as the "nonclosure area" (Figure 2-1).



2.1.1 Withdrawal Tenure and Range Requirements

The MTARNG proposes to withdraw the LHTA for 25 years from date of legislation enactment. Under Alternatives 1, 2, and 3, "withdrawal" means transferring jurisdiction of 18,644 acres of federal land from the BLM to the Department of the Army. The proposed withdrawal is the making of a new withdrawal and not an extension, modification, or renewal of an existing withdrawal. Section 2310.3-4 of the *Engle Act* limits the duration of the new withdrawals to a period not to exceed 25 years from the date the order is signed. Renewal of the withdrawal or a change in the action described in these alternatives would require environmental review in accordance with NEPA and the President's Council on Environmental Quality requirements.

The overall mission of the MTARNG is common to all alternatives. It is to train and equip soldiers to meet readiness standards and conduct wartime and peacetime missions. The MTARNG mission is two-fold; its citizen-soldiers must be adequately trained and ready to (1) respond to domestic emergencies, civil unrest, or civilian needs (such as wildfire suppression) if called by the Governor, and (2) respond to national wartime needs if called by the President. The mission is described further in Section 1.2.1.

Under all alternatives, LHTA range requirements are the minimum land area, uses, and rights necessary to accomplish training objectives in a safe and generally unimpeded manner. Currently, civilian use of private property within the LHTA and permitted activities such as grazing, mining, and uses requiring a right-of-way are consistent with the MTARNG military mission.

2.1.2 MILITARY LAND USE

Use of the LHTA by the MTARNG has remained essentially the same for the past 40 years. The MTARNG expects to continue to use the LHTA for similar training exercises at about the same frequency and intensity as historical use (Montana Army National Guard [MTARNG] 2004a). This subsection describes the expected military use of the LHTA in detail. Any proposed changes from existing military use are summarized at the end of Section 2.1.2. Any proposed changes in range use not anticipated in this EIS would require a separate NEPA evaluation.

MILITARY UNITS PROPOSED FOR TRAINING AT LHTA

Military units expected to use the LHTA would be the same as those that have trained in the past. The primary users of training areas at the LHTA would be MTARNG mechanized infantry, aviation, and cavalry units (Table 2-2). In addition, the LHTA would be used occasionally by a variety of organizations that schedule use through MTARNG personnel at the Fort Harrison Training Center.

**TABLE 2-2
PRIMARY MILITARY UNITS AND MISSIONS EXPECTED TO TRAIN
IN THE LIMESTONE HILLS TRAINING AREA**

Unit^a	Mission
95 th Troop Command	The command and control entity for all MTARNG units in Montana.
1049th Engineer Platoon	Firefighting and fire prevention.
Troop E 163rd Cavalry	An opposing force unit assigned to the National Training Center at Ft. Irwin California, they fight using Soviet style tactics to help train our forces in how to fight. They are equipped with tanks, Bradley fighting vehicles, mortars and other standard small arms.
143rd Military Police Detachment	A detachment of military police with a law and order function.
1-163rd Infantry Battalion	A unit designed to close with and destroy the enemy using shock effect, firepower and maneuver. Equipped with Bradley infantry fighting vehicles and mortars.
1-189th Aviation Battalion	A composite unit of several different aircraft types, generally cargo helicopters, equipped with three different types of aircraft armed with machine guns for self-defense.
1-190th Field Artillery Battalion	A unit designed to destroy the enemy through massing of heavy artillery concentrations. They do not currently fire their primary weapon system in Montana.
495th Transportation Battalion	A headquarters element that oversees and dispatches multiple convoy and supply units.
443 rd Quartermaster Company, Petroleum Support	A petroleum supply unit that establishes fuel farms and pipelines.
631 st Chemical Company (Recon and Decon) ^b	A chemical company designed to reconnoiter areas of contamination and assist other units with decontamination of their equipment and personnel.
639th Quartermaster Company, General Supply	A general supply company that warehouses, transports, and distributes supplies for other units.
3669th Maintenance Company	A mechanical and vehicular maintenance and troubleshooting company.
208 th Regiment (Montana Regional Training Institute)	A regiment that trains many different specialties to include tanks, Bradley fighting vehicles, and mortars.
410, 411, 412, 413, 414, and 415 th Ground Liaison Teams	Small teams that specialize in ground to air communications to call in Air Force or Navy air support for ground troops.
Air National Guard, 219th RED HORSE^c	An engineering squadron designed to build an airfield from the ground up. Includes horizontal and vertical construction specialists, airfield constructors and some security personnel. Armed with small arms and machine guns.
Air National Guard, 120th Fighter Wing.	A security detachment that provides for protection of air fields.
Mission for Detachment 2, 111 th Press Camp	Provide broadcast journalists, combat cameraman and media escort services to units from division to battalion size.
Mission for Detachment 1, 1022nd Medical Company	Provide air evaluation and immediate life-saving for forward-deployed soldiers on the battlefield.
Garrison Command	Command and operate Montana installations. This unit is responsible for activities such as construction, facilities maintenance, and security.
Joint Force Headquarters	Administrative element of the MTARNG, such as the Adjutant General and staff.

Notes:

- All units are MTARNG unless otherwise noted; units in **bold** have been deployed or are currently deployed, to Iraq or Afghanistan.
- Reconnaissance and decontamination
- RED HORSE – Rapid Engineer Deployable Heavy Operational Repair Squadron

Based on past use, the LHTA could be used for training by: 19th & 20th Special Forces Groups, 1st Special Forces Group, 5th Special Forces Group, 10th Special Forces Group, United States Navy Seal Team 5, 370th Quartermaster Battalion, 4225th Field Medical Hospital, 889th Supply and Services Battalion, 83rd Military Support Detachment, 747th Postal Support Company, 741st & 341st Security Police Squadrons, 2nd Battalion Force Marine Reconnaissance Company, 341st Civil Engineer Squadron, 341st Services Flight, University of Montana & Montana State University Reserve Officer Training Corps (ROTC), Idaho State University ROTC, Bureau of Alcohol, Tobacco and Firearms, and Civil Air Patrol (Flaherty 2004).

ANNUAL USE PERIOD

The LHTA would be used for military exercises during the same period of time it is currently used: approximately 140 days per year out of a 6.5-month training period beginning the second Monday in April to November 30 each year. The LHTA would not be used for military training exercises during the 5.5-month period from December 1 to the second Monday in April. The non-training use period is currently in effect, and would continue at the request of Montana Fish, Wildlife and Parks (FWP) to protect big game wildlife habitat.

LHTA TRAINING RANGES

Training activities at the LHTA would continue to take place primarily on one or more of 17 designated live-fire training ranges and a dismounted training area that currently exist at the LHTA. Any new ranges proposed for the LHTA would require NEPA review. Ranges at the LHTA are defined by the type of gunnery and/or vehicle used during training, the location of the range, and the training range mission. Range locations and configurations would be based on the following existing characteristics:

- 1) designated range firing locations which are the points from which a weapon may be fired during training, and
- 2) the range surface danger zones, which are the areas that include the farthest distance that something fired from a firing point may reach including distances reached by fragment escape (Army Regulation [AR]-385-63).

Table 2-3 summarizes the description of each range currently used at the LHTA. These range descriptions also apply to Alternatives 1, 2, and 3. Range locations by firing points and surface danger zones are shown in Figure 2-2. The proposed frequency of use of each range shown in Table 2-3 is based on usage during 2003. These values vary from year to year as some ranges are used more than others to meet the military mission.

**TABLE 2-3
RANGE DESCRIPTION SUMMARY
LIMESTONE HILLS TRAINING AREA**

Map ^a Location	Primary Use	Mission	Number of Firing Points	Weapons	Frequency Used ^b (days)
Bradley Use SDZs ^c	Bradley Use Training	Train Bradley Fighting vehicle crews in the science of gunnery	7 stationary and 4 STAB ^c points	<ul style="list-style-type: none"> • M2/A2 Bradley Fighting Vehicle • 25mm Chain Gun, TOW^c, Coax Machine Gun 	60
Composite SDZs	Tank Gunnery Training	Train M1A1 tank crews in the science of gunnery	7 stationary and 4 STAB points	<ul style="list-style-type: none"> • M11/A1 Tank • 120mm Main Gun • .50 Cal Machine Gun • Coax Machine Gun 	22
Composite SDZs	Training in the use of 25-Meter Pistol, Rifle, and Machine Gun Weapons Firing Points	Train soldiers in the operation of their individual weapons	12	<ul style="list-style-type: none"> • M16/M4 series weapons • M60/M249/M240B Series Weapons • 7.62mm Sniper Weapon System • .45 Caliber Pistol • 9mm Pistol • .38 Caliber Pistol 	3
Live Fire Scout Course	Live Fire Drills	Train soldiers on movement to contact drills and mounted live fire drills	4 engagement areas	<ul style="list-style-type: none"> • M16/M4 series weapons • M249 Squad Automatic Weapon • M60 Machine Gun • M2 HB Machine Gun 	5
Composite SDZs	40mm ^c /M203 range Grenade Launcher Familiarization	Train soldiers on the use of the M203 grenade launcher	2	<ul style="list-style-type: none"> • M203 Grenade Launcher • M79 Grenade Launcher 	5
Composite SDZs	Multi-Purpose Machine Gun M60/and .50 Cal Qualification	Train soldiers on crew served weapons systems	4 transition course lanes and 2, 10-meter qualification lanes	<ul style="list-style-type: none"> • M249 Squad Automatic Weapon • M60 Machine Gun • M2 HB Machine Gun • M240B Machine Gun 	58

TABLE 2-3 (Continued)
RANGE DESCRIPTION SUMMARY
LIMESTONE HILLS TRAINING AREA

Map ^a Location	Primary Use	Mission	Number of Firing Points	Weapons	Frequency Used ^b (days)
Mortar Firing Points	60mm/81mm/120mm Mortar Range – Indirect Fire	Train mortar crews on their primary weapon system	4	<ul style="list-style-type: none"> • 120mm^c Mortar • 60mm^c Mortar with sub-cal device • 4.2" Mortar • 81mm Mortar • Short Training Round Practice 	18
Composite SDZs	LAW ^c / AT-4 Range Anti-Armor Weapon System Familiarization	Train soldiers in light anti-tank operations	1	<ul style="list-style-type: none"> • M72A2 Light Anti-Tank Weapon • AT-4 • 90mm Recoilless Rifle • TOW guided missile system • DRAGON^c guided missile system 	2
Composite SDZs	DRAGON Range	Train soldiers in medium anti-tank operations	2	<ul style="list-style-type: none"> • DRAGON guided missile system 	3
Composite SDZs	TOW ^c Range	Train soldiers in heavy anti-tank operations	1	<ul style="list-style-type: none"> • TOW guided missile system 	3
Composite SDZs	Claymore Mine Area	Train soldiers in anti-personnel mine operations	4	<ul style="list-style-type: none"> • M18/A1 Claymore Mine • All Military or Civilian Demolitions 	7
Composite SDZs	Ariel Gunnery Range	Train helicopter crews on the proper standards of door gunnery	1 Lane	<ul style="list-style-type: none"> • M-60 Machine Gun • M249 Machine Gun 	8
Hand Grenade Range	Live Hand Grenade Training	Train soldiers on the use of live hand grenades	2	<ul style="list-style-type: none"> • Hand Grenades 	7
Hand Grenade Range	Hand Grenade Qualification Course (Nonfiring)	Qualify soldiers on the use of hand grenades	1 lane	<ul style="list-style-type: none"> • Training Grenade – M69 	9

**TABLE 2-3 (Continued)
RANGE DESCRIPTION SUMMARY
LIMESTONE HILLS TRAINING AREA**

Map ^a Location	Primary Use	Mission	Number of Firing Points	Weapons	Frequency Used ^b (days)
Composite SDZs	MK-19 Range (transition)	Train soldiers on the use of the MK-19 automatic grenade launcher	2	<ul style="list-style-type: none"> • MK-19 	34
Live Fire and Movement Range	Live Fire and Movement Training	Train soldiers in the science and art of fire and movement and live fire ambush training	1 Lane	<ul style="list-style-type: none"> • M-60 Machine Gun • M249 Machine Gun • M240B Machine Gun • M16/M4 Series Weapons • M203 Grenade Launcher • M249 Squad Automatic Weapon • M-9 Pistol 	3
Heavy Demolition Range	Heavy Demolitions Training (up to 400 pounds)	Train soldiers in the proper and safe use of explosives and explosive devices	1 Lane	<ul style="list-style-type: none"> • Explosives and Demolitions 	6
Entire LHTA ^c	Light Maneuver Area	Used for training that does not use live fire, however, is soldier essential such as: land navigation, drivers training, and field survivability training.	None	None	57

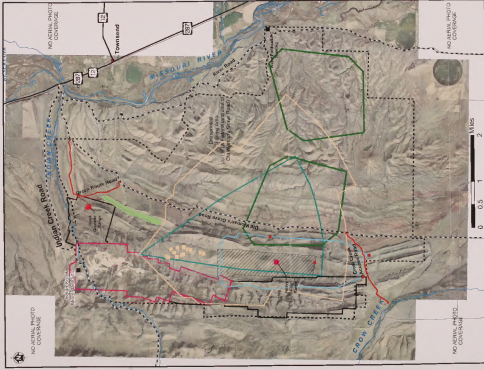
Note:

^a Range location shown on Figure 2-2.

^b Number of days range is used per year, based on MTARNG records for March 1, 2003 through November 30, 2003. Range closed: December 1, 2003 through the second Monday in April. Use frequency shown as 0 indicates that the range was not used in 2003.

^c Acronym Definitions

Cal	Caliber	LHTA	Limestone Hills Training Area
mm	Millimeter	STAB	Stabilization
TOW	Tubed-launched optically tracked wire-guided missile		
LAW	Light anti-tank weapon		
DRAGON	Wire-guided anti-tank missile		
SDZ	Surface Danger Zone		



Foreign Trade

1. **NAME** _____
2. **ADDRESS** _____
3. **CITY** _____
4. **STATE** _____
5. **ZIP** _____

FIGURE 3-2
PROPOSED MILITARY LANDS USE

Training exercises by units such as those described in Table 2-2 take place on one or more of the ranges described in Table 2-3 and shown on Figure 2-2. As currently required, all personnel who participate in training ranges would adhere to preset direction and conditions for training described in range-specific manuals. Range manuals would continue to be required to be on-site during all training activities on that range. Each range manual contains detailed instruction describing range location, firing points, targets, weapon systems for that range, authorized ammunition, access restrictions, and firing restrictions. The manuals also include requirements and instructions for safety, communications, transportation, and encounters with nonmilitary land users. All range manuals are located at Training Site Headquarters in Billeting Office 1011, Fort Harrison.

Military use of the LHTA for purposes of mortar target practice would be limited to the area shown as the high explosive active impact area on Figure 2-2. This provision limits military use to a specific area which enables the MTARNG to predict what kind of activities would and would not conflict with the military mission under all alternatives.

UNEXPLODED ORDNANCE AT THE LHTA

Unexploded ordnance risk at the LHTA would continue to be managed in accordance with the most current Department of Defense (DoD) directives and implementing guidance (DoD 2004 and DoD 1996). The LHTA would remain partitioned into two areas: a closed area west of Old Woman's Grave Road and an open area east of Old Woman's Grave Road (referred to as the "nonclosure area" in Figure 2-1).

MTARNG FACILITIES

All existing facilities would remain in place at the training compound or range tower (Figure 2-2). These are fully described in Chapter 3 and include:

LHTA Cantonment Area (Training Compound)

- Range support facility
- Loading dock
- Storage trailer
- Pump house
- Concrete pads for refueling, tent set up, rotary wing landing, parking, and fire training
- Underground septic system
- One above ground storage tank

Range Tower Area

- Range tower
- Briefing building
- Range support facility
- Ammunition storage

- Soldier sleep site (old ammunition storage pad)
- Rotary wing landing pads

Other

- Two guard shacks at north and south LHTA entrances on Old Woman's Grave Road
- Ammunition pad

NATURAL RESOURCE PROTECTION TRAINING RESTRICTIONS

Training restrictions for the purposes of ecosystem protection would continue to be imposed on all military activities at the LHTA. All military activities would be conducted in accordance with the *Soldier's Handbook for Environmental Protection* (Montana Department of Military Affairs [DMA] 1999) and all subsequent updates, Army regulations governing environmental protection and enhancement of military ranges (Army Regulation 200-1), the MTARNG's *Integrated Natural Resource Management Plan* as updated, the *Sikes Act*, *Elkhorns Travel Management Plan* as updated (BLM 1995), and the *National Guard Integrated Training Area Management Program*. Environmental planning requirements addressed under these guidance and requirements include an environmental assessment and documentation required by the *National Environmental Policy Act*, wetlands protection, protection of terrain from tracked vehicles, protecting trees and shrubs, soil protection, bivouac site protection, wildlife protection, cultural resources protection, noise reduction, solid waste disposal, and spill prevention/cleanup. These documents would assist the MTARNG in planning for training at the LHTA, assessing and reducing environmental damage, and ensuring compliance with environmental laws and regulations.

The MTARNG applies *Integrated Training Area Management Program* requirements to environmental management of the LHTA. The integrated training area management program was initiated with the realization that Army training lands nationwide were being degraded to the point where their capabilities to sustain military missions were in jeopardy. Proper management to support the military mission and other multiple-use activities is a challenge unique among other managers of public lands.

Integrated training area management is a program designed to:

- sustain and support military training missions,
- ensure compliance with existing statutory regulations, and
- promote sound stewardship of natural resources contained therein.

All measures to protect the environment stipulated in the right-of-way decision for the LHTA (Appendix A) would continue to be practiced to minimize damage to natural resources from military training exercises with the following changes:

- Changes in designated routes that would result in ground disturbance, such as creation of a new motorized vehicle route, would require a separate NEPA evaluation.
- All Montana laws regarding firearms would apply at the LHTA.

PROPOSED CHANGE IN MILITARY USE OF THE LHTA FROM EXISTING AND HISTORICAL USE

The proposed military use of the LHTA would be the same as the existing use with the exception of modifications designed to modernize ranges and support units adequately for combat. These modifications would most likely be:

- reduced use of tracked vehicles and increased use of lighter vehicles,
- improved technologies such as the use of simulations such as lasers instead of live fire, and
- reduced size and changes in the shape of surface danger zones.

Any substantial change in military land use not addressed in this EIS would trigger an evaluation under the *National Environmental Policy Act*.

2.1.3 NON MILITARY LAND USE

Under Alternatives 1, 2, and 3, all nonmilitary land use would be secondary to military use. Non-military uses on federal land throughout the entire LHTA would continue to include mining and grazing activities that do not conflict with the military mission as described in Section 2.1.1. However, under alternatives 2 and 3, as described below, the MTARNG has clearly identified areas of existing conflict between mining and the MTARNG mission and has indicated that it will not expand its mission into areas that create greater conflict with mining. Recreation, road travel, and utility corridors that do not conflict with provisions stated in Section 2.1.1 would continue within the area open for access to the public.

The following subsections describe the uses and agency management responsibilities of the LHTA that are common to all action alternatives.

PUBLIC ACCESS

For the purposes of managing hazard risk by military training exercises and unexploded ordnance (UXO), the LHTA would continue to be partitioned into two areas: the closure (closed to unescorted public access) and nonclosure (open to public access) areas (Figure 2-1). Surveys conducted in the closure area indicate that UXO is present throughout the closure area, with the high explosive active impact area inside the closure area having the highest concentration of buried UXO. Prevalence of buried UXO in the nonclosure area is unknown but calculated to be considerably less than in the closure area based on the following information:

- the nonclosure area has historically been avoided for dud-producing training,
- current records indicate a very limited presence of UXO in the nonclosure area (one recorded discovery), and
- dud-producing training exercises that took place in the nonclosure area were aimed at targets in the closure area.

Under the existing right-of-way grant, the current closure area is 8,573 acres in size and includes all lands within the LHTA that are west of Old Woman's Grave Road and the Green Route Road. The withdrawal closure area under the three action alternatives would include the same area as under the current right-of-way, with the exception of about 388 acres of land south of the Crow Creek access road (Figure 2-1). A comparison of current available acreage versus acreage available for public access under Alternatives 1, 2 and 3 is provided in Table 2-1.

The status of land at the LHTA currently under emergency closure would change from temporary to indefinite or permanent closure for about 8,069 acres of federal and state land throughout the life of the land withdrawal or until adequately cleared of unexploded ordnance and determined to be safe for light use such as hunting and hiking. This closure area would continue to be used for gunnery training and remediation of UXO. Access to the closure area would be provided to any individual who sought and obtained an escort with explosive ordnance disposal (EOD) training and approved by the MTARNG.

As with the existing situation, all non-military users of the LHTA would have access for surface use to the non-closure area year around and would also have access to the closure area with prior permission and an escort approved by the MTARNG. Under all action alternatives, private land owners would not be restricted from accessing their inholdings. During training exercises, land users would be requested to wait until the MTARNG suspends firing before proceeding through the LHTA. Native Americans would have access to LHTA sites and resources that are of religious importance or are important to the continuance of their cultures (for example, areas containing traditionally used plants and traditionally used hunting areas), consistent with the military mission, appropriate laws and regulations, and subject to the same safety, security, and resource considerations as the general public. No such sites have been identified to date.

RECREATION

No recreation would be allowed in the closure area without permission and escort by (or escort approved by) the MTARNG. The MTARNG could open portions of the closure area if compatible with military activities, and as they are cleared of UXO hazard risk to surface users. The status of the closure area would change from temporarily closed to permanently closed.

RIGHTS-OF-WAY

Rights-of-way approvals for any part of the proposed withdrawal area must be agreed upon by both the MTARNG and the BLM. New rights-of-way agreeable to the MTARNG would meet the following criteria: no adverse impact to the military mission, and UXO hazard risk is determined to be appropriate. No rights-of-way applications would be required for activities or structures added by the MTARNG throughout the withdrawn area.

MINING AND MINERAL RIGHTS

Management of mineral resources, including oil and gas, on public lands within the proposed LHTA withdrawal would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws. The Army would obtain the minimum land area, uses, and rights necessary to accomplish training objectives in a safe and generally unimpeded manner in accordance with Sections 2.1.1 and 2.1.2 of this EIS.

Mineral resources would be managed by the BLM Butte Field Office in accordance with the most current Butte Field Office resource management plan, and the *General Mining Law* (of 1872). As is now the case for current mining operations within the LHTA, any future proposals to the BLM for exploration, extraction, or production of locatable minerals (such as gold, zinc, copper, limestone or dolomite), salable minerals (such as sand and gravel), and leasable minerals (such as oil, gas, and geothermal resources) requiring access and surface disturbances on withdrawn land would require concurrence by the Army (based on safety and access issues) prior to BLM's approval.

2.1.4 RESOURCE STEWARDSHIP

Resources managed by the MTARNG at the LHTA would be managed under the *Sikes Act* (U.S. Code Title 16, Sections 670a-670o) and in accordance with the most current version of the MTARNG *Integrated Natural Resources Management Plan* (INRMP) and *Integrated Cultural Resources Management Plan* (ICRMP). These integrated resource management plans describe the goals and objectives for resource management and monitoring and identifies the parties for these activities.

Resources managed by the BLM would be managed under the *Federal Land Management and Policy Act* and the most current Butte Field Office resource management plan. The responsible agency for land stewardship in the closure and nonclosure areas varies with different alternatives. The policy of total suppression for all fires started by military activities in accordance with the MTARNG Range Use Manual Fire Suppression Plan would remain in place for all alternatives (Appendix D).

Under all alternatives, wildlife and water rights would be managed by the State of Montana, and county roads by Broadwater County. Special status animal species would be managed by the U.S. Fish and Wildlife Service.

CULTURAL RESOURCES

The MTARNG would manage preservation of cultural resources in accordance with the *Sikes Act* and the MTARNG *Integrated Cultural Resource Management Plan* (ICRMP) (MTARNG 2002b). In accordance with the *ICRMP*, the MTARNG would insure that when MTARNG undertakings are proposed, or examination of a discovery site is needed to determine site eligibility, that the Cultural Resource Manager is assisted by individuals who meet the Secretary of the Interior's professional qualifications

standards for history or archaeology. The physical area of MTARNG authority over cultural resource management at the LHTA would differ depending on the alternative.

WILDLIFE

The Montana Department of Fish, Wildlife and Parks would continue to control game harvest at the LHTA and surrounding property. The closure area would remain closed to hunting, trapping, and any public access. As the closure area is cleared of UXO, additional land would be reevaluated for possible public hunting access. No military training exercises would be allowed anywhere on the LHTA from December 1 through the second Monday in April without permission from Montana Department of Fish, Wildlife and Parks to protect winter range for mule deer, elk, and bighorn sheep.

Under the *Integrated Natural Resource Management Plan (INRMP)*, the MTARNG's primary wildlife management goal is "to maintain, develop, and restore, as necessary, a diverse, viable habitat for wildlife consistent with the training mission." The *INRMP* wildlife management policy is stated as follows: "*Management of wildlife is based on habitat management. Habitat management is accomplished through an adaptive management strategy that includes focused wildlife habitat management projects, Integrated Training Area and Management (see description of this program under Section 2.1.2, Natural Resource Protection Training Restrictions), wetlands management, fire management, and similar programs. Specific wildlife management and maintenance practices consist of prescribed burning, native wildlife food plantings, and other wildlife management practices. Habitat is improved or manipulated to create as much diversity as possible for wildlife.*" Habitat and wildlife management goals and activities such as prescribed burning, native wildlife planting, bat and game management, and wetlands protection and restoration are described in more detail in Sections 7.3 through 7.6 of the *INRMP*.

The LHTA is located in the Elkhorn Mountains. Most of the Elkhorn Mountains are managed cooperatively among the U.S. Forest Service (Helena and Beaverhead-Deerlodge National Forests), the BLM, and the Department of Fish, Wildlife and Parks (FWP) under a memorandum of understanding (FWP, BLM, U.S. Forest Service 2002). This interagency memorandum of understanding outlines the principles and objectives that the agencies have set out as the way to manage the Elkhorn Mountains as an ecosystem across administrative boundaries. The BLM would continue to participate in the cooperative agreement. The *Elkhorn Cooperative Management Area Travel and Recreation Map* provides public information regarding travel and use restrictions for wildlife protection in the Elkhorns cooperative management area (BLM 1995). The MTARNG would request to be a signator on the memorandum of understanding, and comply with the principles and objectives set forth.

The MTARNG is in the process of updating the *Integrated Natural Resource Management Plan* to require annual planning meetings with the Fish Wildlife and Parks resource specialists to further MTARNG understanding of activities that could adversely impact wildlife.

GRAZING

MTARNG would be responsible for on-the-ground management and administration of livestock grazing for either all or portions of the LHTA under the action alternatives. The INRMP describes the goals and objectives for vegetation management and monitoring and identifies the parties responsible for these activities. In addition, MTARNG would use monitoring practices established under the current Sustainable Range Program, which includes Land Condition Trend Analysis. The Sikes Act would also allow MTARNG the flexibility to adopt BLM's Standards for Rangeland Health.

WEED CONTROL

Weed management would be conducted in selected areas prone to weed infestations. Weed control, including monitoring and pesticide application guidelines, is addressed in more detail in the *Integrated Pest Management Plan* (MTARNG 2004a).

OTHER NATURAL RESOURCES

Wetlands protection throughout the LHTA is required by Executive Order 11990, *Protection of Wetlands*. All activities in the LHTA would be required to comply with the *Montana Clean Water Act* and the *Montana Clean Air Act*. The MTARNG would continue to implement noise control programs described in the *Installation Environmental Noise Management Plan for LHTA* (USACHPPM 2003).

2.1.5 ROADS

The LHTA is traversed by two county roads: Old Woman's Grave Road, which runs north-south through the center of the LHTA, and about 1.5 miles of River Road, which runs north-south adjacent to the boundary of the LHTA withdrawal area (Figure 2-1). Under Alternatives 1, 2, and 3, the following segments of county roads would traverse the LHTA: approximately 1.5 miles of River Road in the southwest ½ of S17,T6N,R1E, and approximately 8 miles of Old Woman's Grave Road. These roads would continue to operate under the jurisdiction of Broadwater County and would not be considered part of the LHTA. County roads would remain under the jurisdiction of Broadwater County and would continue to provide access to and from ranches, mine sites, and recreational areas. The MTARNG and the BLM would not require permits to use any road within the LHTA non-closure area. However, public use of Old Woman's Grave Road would continue to be limited in accordance with the existing policy as follows: during training events that could affect Old Woman's Grave Road users, all vehicles would be asked to stop until weapons systems are cleared and it is determined to be safe to proceed. Based on past activities, vehicles would be stopped for 10 to 30 minutes. Appendix D contains instructions that would continue to be applied by MTARNG personnel during live-fire exercises. Any road development would require separate NEPA analysis.

2.1.6 LHTA WITHDRAWAL BOUNDARY

The proposed LHTA boundary, as compared to the existing LHTA right-of-way outer boundary, is shown in Figure 2-1. The proposed LHTA area is approximately 71 acres smaller than the existing area (Table 2-1). The proposed outer boundary is different from the existing boundary in order to exclude small parcels of federal land used primarily for grazing, eliminate three sites listed on the National Register of Historic Places, and exclude federal land that could be developed for recreational use near the Missouri River and to exclude Indian Creek and Indian Creek Road. The proposed outer boundary includes some federal land that could be contaminated with UXO or would otherwise become a small isolated parcel after the withdrawal.

Alternatives 1, 2, and 3 include improved boundary identification between the closure/non-closure area to reduce the potential for unsafe access to UXO-contaminated areas of the LHTA. Warning signs would be placed every 300 feet throughout the entire closure/non-closure boundary. Where allowable by federal law governing UXO hazard safety, warning signs would be used instead of fencing to avoid adverse impacts to wildlife and livestock. Signs would be spaced at distances less than 300 feet to facilitate visibility from sign to sign throughout the length of the boundary.

2.1.7 INHOLDINGS (PRIVATE AND STATE-OWNED LAND LOCATED WITHIN THE WITHDRAWAL AREA)

Under all action alternatives, the Army Corps of Engineers (COE) would acquire any nonfederal land located within the proposed withdrawal area that could impact the military mission. The methods of allowable acquisitions and dispute resolution would vary by alternative. Also, the determination of specific mining claims in conflict with the military mission is only identified by the MTARNG in Alternatives 2 and 3 where it is limited to 94 claims. It may be that only these same claims will be identified by the U.S. COE and DA for acquisition in Alternative 1, or alternatively the number of mining claims deemed in conflict in Alternative 1 could be greater, to the extent that all mining claims in the Limestone Training Area would be acquired.

2.1.8 UNEXPLODED ORDNANCE (UXO) CLEARANCE ACTIVITIES

Portions of the LHTA have been used for live-fire weapons training resulting in a risk of encountering UXO throughout the training area. The area proposed for continued closure to public access also contains an unacceptable risk of encountering UXO both on the surface and subsurface. Under all action alternatives, current UXO hazard reduction activities within the Graymont Western US, Inc. (Graymont) mine permit boundary would continue at the approximate rate of 25 acres per year. Because clearance activities are dependent on funding, the rate of clearance is only an estimate based on past clearance rates. The MTARNG would continue to prioritize clearance activities so that UXO hazard would be removed in the mine permit area before anywhere else. The Army would also be responsible for assessment and clearance of UXO in all contaminated areas.

The MTARNG would continue to implement all applicable Department of Defense explosives safety requirements (DoD 2004, DoD 1996) and the UXO clearance plan described in the MTARNG *Explosive Safety Submission* approved by the Department of Defense Explosive Safety Board (MTARNG 2003a). Under the 2003 *Explosive Safety Submission*, the MTARNG would continue to accommodate uninterrupted mineral extraction in areas targeted by Graymont by clearing UXO in the permit area first. The portion of the LHTA targeted for highest priority UXO clearance is the area shown on Figure 2-1 as the southern extent of the Graymont Mine permit area. All action alternatives set a goal for the MTARNG to achieve acceptable levels of UXO clearance in the mine permit area by 2008. BLM would provide Graymont with authorization to proceed in areas approved by the Department of Defense Explosives Safety Board as adequately cleared of UXO hazards. Authorization would be provided on a routine basis at a frequency of at least once per year as each portion of the permit area is cleared. UXO clearance elsewhere in the closure area would not occur.

2.1.9 PAYMENTS IN LIEU OF TAXES (PILT)

The BLM currently provides Broadwater County with approximately \$26,000 per year as payment for LHTA federal land managed by the BLM in lieu of taxes. The amount and source of payments in lieu of taxes varies with each alternative.

2.2 ALTERNATIVE I — PROPOSED ACTION

Alternative I represents the initial proposal by the MTARNG to withdraw the LHTA from BLM jurisdiction with the exception of changes to the withdrawal boundary. The initial withdrawal boundary was modified after hearing scoping comments and is the same for all action alternatives. All actions described in Section 2.1 apply to Alternative I. This section presents the elements of Alternative I that are different from one or more of the other action alternatives.

2.2.1 WITHDRAWAL TENURE AND RANGE REQUIREMENTS

Same as described under Section 2.1.1.

2.2.2 MILITARY LAND USE

In the event of a conflict with military land use or mission, the COE acting on behalf of the Army (DA) would have the authority to reduce or eliminate civilian use of any property within the LHTA including permitted activities such as grazing and mining.

2.2.3 NON MILITARY LAND USE

With the exception of minerals and wildlife, management of nonmilitary uses and resources on federal land at the LHTA would be conducted by the MTARNG. Under Alternative I, activities managed by the MTARNG, on behalf of the Army, would include: public and agency access, travel management, real estate transactions, recreation, weed control, fire management, grazing permits, and right-of-way permits.

The following subsections describe how uses of the LHTA and activities on the LHTA would be managed under Alternative I. Proposed responsibilities for uses and activities on the LHTA are summarized in Table 2-4.

RECREATION

Under Alternative I, the MTARNG would adopt and implement all policies and restrictions described in the BLM *Elkhorns Travel Management Plan* as it applies to the LHTA. The MTARNG proposes to work with local citizens to implement a LHTA trails plan. A trails plan is currently under development by local citizens in cooperation with the Montana Fish, Wildlife and Parks Department and the BLM.

**TABLE 2-4
AGENCY MANAGEMENT RESPONSIBILITIES
ALTERNATIVE I
FEDERAL LAND WITHIN THE LHTA**

Resource	Activity	Primary Responsible Agency*
Land	Military Land Use	MTARNG
	Access	MTARNG
	Recreation	MTARNG
	Real Estate	MTARNG
	Grazing	MTARNG
	Rights-of-Way	MTARNG
	Water Rights	DNRC
Vegetation	Mining	BLM
	Weed Control	MTARNG
	Fire Management	MTARNG
	Timber Management	MTARNG
	Wildlife Habitat	MTARNG
	Vegetation Removal for UXO Clearance	MTARNG
Wetlands	All Activities	MTARNG
Special Status Species	All Activities	FWS
Minerals	All Activities	BLM
Soils	All Activities	MTARNG
Cultural	All Activities	MTARNG
Wildlife	All Activities	FWP/MTARNG
Air (includes Noise)	All Activities	MTARNG
Water Quality	All Activities	MTARNG
Infrastructure	Non-county Road Maintenance	MTARNG
	County Road Maintenance	Broadwater County
	Waste Management	MTARNG
	MTARNG Facilities	MTARNG

Notes:

MTARNG – Montana Army National Guard

DNRC – Department of Natural Resources and Conservation

BLM – U.S. Bureau of Land Management

FWS – U.S. Fish and Wildlife Service

FWP – Montana Department of Fish, Wildlife and Parks

UXO – Unexploded Ordnance

* The Primary Responsible Agency is the agency that would (1) be responsible for directing the management of the resource or activity, (2) provide the contact personnel for questions, concerns, or requests relevant to the resource or activity, (3) provide the funding and oversight for any relevant management activities, (4) determine the overriding legal, regulatory and guidance framework for management activities (under the BLM, it would be the *Federal Land Policy and Management Act*, and under the MTARNG, it would be the *Sikes Act*).

GRAZING

Under Alternative I, management responsibility of the use of the LHTA for grazing would shift from the BLM to the MTARNG. The Army would acquire the following BLM-permitted grazing allotments in accordance with Title 43, Chapter 8A, Subchapter I, Section 315q: portions of the following allotments: Dowdy Ditch, Section 33, and Limestone Hills; and all of the Limestone East allotment (Figure 2-3).

Grazing use would be coordinated where possible with adjacent private operations and BLM permittees. The MTARNG would allow permit grazing under existing permit conditions until the end of the permit period. After that time, the MTARNG would either terminate grazing in that allotment, or authorize grazing on a competitive basis.

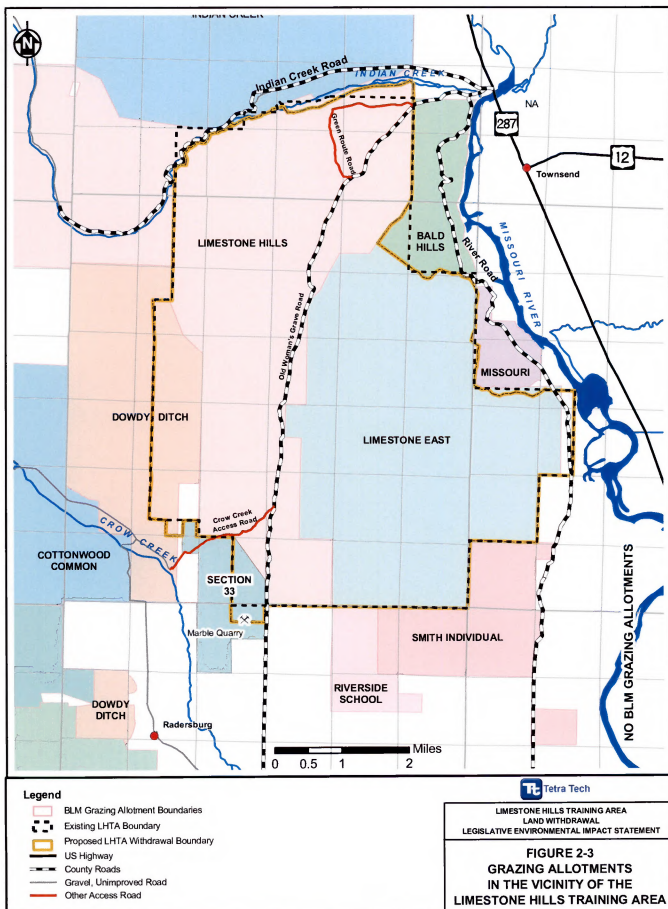
Title 43, Chapter 8A, Subchapter I, Section 315q: Withdrawal of lands for war or national defense purposes; payment for cancellation of permits or licenses

Whenever use for war or national defense purposes of the public domain or other property owned by or under the control of the United States prevents its use for grazing, persons holding grazing permits or licenses and persons whose grazing permits or licenses have been or will be canceled because of such use shall be paid out of the funds appropriated or allocated for such project such amounts as the head of the department or agency so using the lands shall determine to be fair and reasonable for the losses suffered by such persons as a result of the use of such lands for war or national defense purposes. Such payments shall be deemed payment in full for such losses. Nothing contained in this section shall be construed to create any liability not now existing against the United States.

A representative of the MTARNG would attend an annual meeting with grazing permittees to coordinate range use and discuss problems from the preceding season. The meetings would be arranged by the MTARNG.

RIGHTS-OF-WAY

Under Alternative I, the MTARNG would be responsible for management and permitting all new rights-of-way. All existing rights-of-way grants would be renegotiated or terminated between the lessee and the Corps of Engineers and associated fees would be eliminated or paid to the Corps of Engineers. All new rights-of-way grants and subsequent fees would be negotiated with and paid to the Corps of Engineers. Rights-of-way determined to adversely impact LHTA military use may be acquired, relocated, or mitigated. All infrastructure constructed by the Army within the LHTA, such as telephone or utility distribution lines, would not require easements.



MINING AND MINERAL RIGHTS

Under Alternative I, the Army could exercise its authority through the Army Corps of Engineers to acquire mineral rights determined to be in conflict with the military mission. Mineral rights associated with all mining claims authorized by the *General Mining Law* and administered by BLM in the LHTA, which are determined by the Army to have no significant impact to military use of the LHTA, would remain unchanged after the withdrawal legislation is enacted. The Army would require validation of mining claims determined by the MTARNG to have an impact on military use. BLM or congressional action termination of some or all mining activities or mining claims due to conflict with military use throughout the life of the proposed withdrawal is a potential action under Alternative I. Figure 2-4 shows the mine permit area and existing mining claims in the LHTA. No new claims or mining permits would be permitted in the LHTA.

2.2.4 RESOURCE STEWARDSHIP

Under Alternative I, all resources except for mineral resources at the LHTA would be managed by the MTARNG under the *Sikes Act* (U.S. Code Title 16, Sections 670a-670o), and in accordance with the most current version of the MTARNG *Integrated Natural Resources Management Plan* (INRMP) and *Integrated Cultural Resources Management Plan* (ICRMP). If Alternative I were implemented, these plans would be revised to reflect the change in administration from the BLM to the MTARNG. Proposed management responsibilities are summarized in Table 2-4.

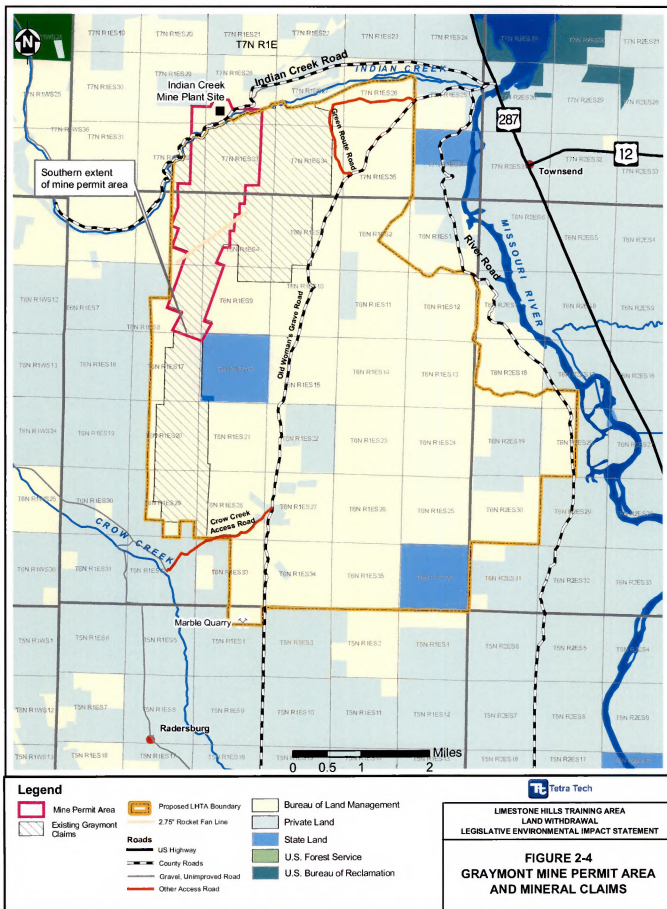
VEGETATION MANAGEMENT

Management of vegetation in the proposed withdrawal area would shift from the BLM to the MTARNG. Vegetation management activities include: weed control, fire suppression, fire fuel management, timber, wildlife habitat improvement and protection, UXO vegetation clearance activities, and grazing permit management requirements. These activities would be conducted in accordance with the *Sikes Act* and the LHTA *Integrated Resource Management Plan* (MTARNG 2001). The *Integrated Resource Management Plan* describes the goals and objectives for vegetation management and monitoring, and identifies the parties responsible for these activities. The MTARNG would direct the spraying of noxious weeds in high traffic areas such as near roadways and training facilities and in accordance with the LHTA *Integrated Pest Management Plan* (MTARNG 1998b). The MTARNG would continue to implement a fire suppression policy of "total immediate suppression" as described in the *Fire Suppression Plan* included in all MTARNG Range Use Manuals (Appendix D). The MTARNG proposes to enter into a mutual aid agreement with the Forest Service for fire suppression when no MTARNG personnel are on-site.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the company's financial health and for providing reliable information to stakeholders. The document then outlines the specific procedures for recording transactions, including the use of standardized forms and the requirement for double-checking entries. It also mentions the importance of regular audits to ensure the accuracy of the records.

The second part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the company's financial health and for providing reliable information to stakeholders. The document then outlines the specific procedures for recording transactions, including the use of standardized forms and the requirement for double-checking entries. It also mentions the importance of regular audits to ensure the accuracy of the records.

The third part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the company's financial health and for providing reliable information to stakeholders. The document then outlines the specific procedures for recording transactions, including the use of standardized forms and the requirement for double-checking entries. It also mentions the importance of regular audits to ensure the accuracy of the records.



CULTURAL RESOURCES

The MTARNG would manage preservation of cultural resources throughout the entire LHTA in accordance with the *Sikes Act* and the MTARNG *Integrated Cultural Resource Management Plan* (MTARNG 2002b). Under Alternative I, the MTARNG would serve as the liaison with and be responsible to the Montana State Historic Preservation Office for cultural resources in the LHTA. When required, the MTARNG Cultural Resource Manager would be assisted by individuals who meet the Secretary of the Interior's professional qualifications standards for history or archaeology.

WILDLIFE

Under Alternative I, wildlife habitat would be managed by the MTARNG throughout the entire LHTA as described in Section 2.1.4.

OTHER NATURAL RESOURCES

Under Alternative I, responsibility for the management of soils, wetlands, air, and water quality throughout the LHTA would shift from the BLM to the MTARNG. Natural resource management would be conducted in accordance with the *Sikes Act* and the MTARNG *Integrated Natural Resource Management Plan* (MTARNG 2001). The MTARNG would continue to implement existing soil erosion control programs described in the MTARNG *Integrated Natural Resource Management Plan*.

2.2.5 ROADS

Same as described under Section 2.1.5.

2.2.6 LHTA WITHDRAWAL BOUNDARY

The MTARNG could fence the high explosive active impact area located within the closure area to deter human access. The high explosive active impact area is about 525 acres in size located within the closure area (Figure 2-2).

2.2.7 INHOLDINGS (PRIVATE AND STATE-OWNED LAND LOCATED WITHIN THE WITHDRAWAL AREA)

Under Alternative I, the Army could exercise its authority under the Army Corps of Engineers to acquire nonfederal land that conflicts with the military mission by any of the following means: purchase, condemnation, donation, or exchange. The Corps of Engineer's preferred method to acquire inholdings is by negotiated purchase. Land condemnation requires an independent appraisal upon which an offer is based. The landowner may appeal the appraised value. The source of funding for acquisition is unknown.

2.2.8 UXO CLEARANCE ACTIVITIES

Same as described under Section 2.1.8.

2.2.9 PAYMENTS IN LIEU OF TAXES (PILT)

Under Alternative I, payments in lieu of taxes from the BLM for federal land within the LHTA would be discontinued because the land would no longer be under BLM jurisdiction with the exception of minerals. Natural resources and activities in the LHTA would not be managed by the BLM.

2.3 ALTERNATIVE 2

Alternative 2 was developed as the result of agency discussions with stakeholders. The stakeholder participation process and results are described in the LHTA Withdrawal Scoping Report (MTARNG 2005a). All actions described in Section 2.1 apply to Alternative 2. This section presents the elements of Alternative 2 that are different from one or more of the other action alternatives.

Under Alternative 2, the MTARNG and BLM would share resource management responsibilities so that most resources in the closure area would be managed by the MTARNG, and most resources in the nonclosure area be managed by the BLM. The closure area is defined as the area closed to access (access without MTARNG-approval) which includes all land located west of Old Woman's Grave Road, west of Route Green Road, and north of the Crow Creek Access Road (Figure 2-1). The nonclosure area is defined as that area open to public access for surface use only, and includes all remaining public land within the withdrawal area.

2.3.1 WITHDRAWAL TENURE AND RANGE REQUIREMENTS

Same as described under Section 2.1.1.

2.3.2 MILITARY LAND USE

Use of the LHTA by the MTARNG would be the same for Alternatives 1, 2, and 3, and include all military activities described in Section 2.1.2. However, see restrictions under non military land use below (Section 2.3.3).

2.3.3 NON MILITARY LAND USE

Under Alternative 2, the MTARNG (as opposed to the COE under Alternative 1) has already determined areas of conflict between the military land use or mission and civilian activities on private or BLM land. Under Alternative 2 mining would be prohibited only on mining claims currently designated as being in conflict with the MTARNG mission (red claims on figures 2-5a and 2-5b). Except for these areas (red claims) mining and grazing activities consistent with existing mission range requirements would be allowed throughout the remainder of the LHTA pending clearance of UXO by the MTARNG, safe access and clearance determinations issued by the Department of Defense Explosives Safety Board, and approval of the activity by the BLM and/or the DEQ. Recreation, road travel, and utility corridors in permitted rights-of-way would continue to be allowed in the nonclosure area.

Under Alternative 2, management of most nonmilitary uses of federal land at the LHTA would be divided between the MTARNG and the BLM based on location of the resource or activity. Most uses of federal land in the nonclosure area would be managed by the BLM, while most uses of federal land in the closure area would be managed by the MTARNG. The following exceptions would be managed by one

agency throughout the LHTA: mining activities (BLM), grazing (BLM), public and agency access (MTARNG), military facilities and exercises (MTARNG), and UXO cleanup activities (MTARNG). Alternative 2 management responsibilities are summarized in Table 2-5.

**TABLE 2-5
AGENCY MANAGEMENT RESPONSIBILITIES
ALTERNATIVE 2
FEDERAL LAND WITHIN THE LHTA**

Resource	Activity	Primary Responsible Agency ^a	
		Closure Area	Nonclosure Area
Land	Military Land Use & UXO Management	MTARNG	MTARNG
	Access	MTARNG	MTARNG
	Recreation	MTARNG	BLM
	Real Estate	MTARNG	MTARNG
	Grazing	BLM	BLM
	Rights-of-Way	MTARNG	BLM
	Water Rights	DNRC	DNRC
Vegetation	Mining	BLM	BLM
	Weed Control	MTARNG	BLM
	Fire Management	MTARNG	BLM
	Timber Management	MTARNG	BLM
	Wildlife Habitat	MTARNG	BLM
Special Status Species	Vegetation Removal for UXO Clearance	MTARNG	MTARNG
	All Activities	FWS/MTARNG	FWS/BLM
Wetlands	All Activities	MTARNG	BLM
Minerals	All Activities	BLM	BLM
Soils	All Activities	MTARNG	BLM
Cultural	All Activities	MTARNG	BLM
Wildlife	All Activities	FWP	FWP
Air (includes Noise)	All Activities	MTARNG	BLM
Water Quality	All Activities	MTARNG	BLM
Infrastructure	Non-county Road Maintenance	MTARNG	BLM
	County Road Maintenance	NA	Broadwater County
	Waste Management	MTARNG	BLM
	MTARNG Facilities	MTARNG	MTARNG

Notes:

NA	Not Applicable
MTARNG	Montana Army National Guard
DNRC	Department of Natural Resources and Conservation
BLM	U.S. Bureau of Land Management
FWS	U.S. Fish and Wildlife Service
FWP	Montana Department of Fish, Wildlife and Parks
UXO	Unexploded Ordnance

^a The Primary Responsible Agency is the agency that would (1) be responsible for directing the management of the resource or activity, (2) provide the contact personnel for questions, concerns, or requests relevant to the resource or activity, (3) provide the funding and oversight for any relevant management activities, (4) determine the overriding legal, regulatory and guidance framework for management activities (under the BLM, it would be the *Federal Land Policy Management Act*, and under the MTARNG, it would be the *Sikes Act*).

RECREATION

Under Alternative 2, the BLM would continue to implement all policies and restrictions described in the *BLM Elkhorns Travel Management Plan* and *Butte Field Office Resource Management Plan* as they apply to the nonclosure area of the LHTA. No recreational activities would be allowed within the closure area without an escort approved by the MTARNG.

GRAZING

Use of the entire LHTA for grazing would continue to be managed by the BLM under the *Federal Land Policy and Management Act* and in accordance with regulations governing grazing management (43CFR4100) and the *Butte Field Office Resource Management Plan*. BLM would assume management of all grazing allotments within the LHTA (both closure and nonclosure areas). Under Alternative 2, existing grazing allotment permit conditions would remain in place. Grazing allotments located within the proposed withdrawal area are: Limestone Hills Allotment, Section 33 Allotment, Dowdy Ditch Allotment, and Limestone East Allotment (Figure 2-3).

RIGHTS-OF-WAY

Rights-of-way would be managed by the BLM in the nonclosure area, and by the MTARNG in the closure area. Existing rights-of-way throughout the LHTA would be permitted to remain and the Army would not exercise its authority to terminate existing rights-of-way. In the nonclosure area, applications for new rights-of-way or changes in existing rights-of-way would receive approval by the BLM subject to the *Federal Lands Policy and Management Act* and the MTARNG regarding safety and mission range requirements. In the closure area, all new rights-of-way grants and associated fees would be negotiated with and paid to the Corps of Engineers. In the nonclosure area, all new rights-of-way grants would be negotiated with and paid to the BLM. All existing grant fees would be paid to the BLM.

MINING AND MINERAL RIGHTS

Mineral resources would be managed by the BLM in accordance with the *Butte Field Office Resource Management Plan*, the *General Mining Law* and the other provisions described below:

- Provisions described in Section 2.1.3
- All mineral rights associated with mining claims authorized by the *General Mining Law* and administered by BLM in the LHTA, which are determined by the MTARNG to have no significant impact to military use or mission in the LHTA, would remain in effect after the withdrawal legislation is enacted. The general locations of mining claims currently held by Graymont in the LHTA are shown in Figure 2-4.

- Mining claims that are in conflict with or could impact military use and mission as determined by the MTARNG are limited to those ninety-four (94) claims shown in red on Figures 2-5a and 2-5b. The specific claims identified as having the potential to conflict with military use of the LHTA under Alternative 2 are also listed in Appendix E. The Army would require validation of mining claims determined by the MTARNG to have an impact on military use, and the mineral rights associated with these claims could be acquired by the COE on behalf of the Army.
- Mineral claims identified by the MTARNG to have no significant impact to military use under Alternative 2 are in all cases located outside of the surface danger zones and impact area, are shown in green on Figures 2-5a and 2-5b and are also listed in Appendix E.
- Mining claims not in conflict with proposed military land use or mission, but requiring coordinated action including: clearing the area of UXO, effectively timing surface activity in Surface Danger Zones, safety and clearance determinations issued by the Department of Defense Explosives Safety Board, and acceptance of that clearance by the BLM prior to the BLM (and DEQ) approving and permitting uses such as exploration and mining, are shown in yellow on Figures 2-5a and 2-5b.
- New Mine Operating Permits approved by the DEQ and BLM would be allowed (this assumes UXO was cleared by the MTARNG, and that safe access was approved by the Department of Defense Explosives Safety Board).
- All operations within the permitted area and activities on mining claims within the LHTA would be subject to the terms and conditions outlined in Memorandum of Agreement between the MTARNG, BLM and Graymont (Appendix F).
- Existing mine permit conditions and restrictions with respect to Graymont operations would not change as the result of Alternative 2.

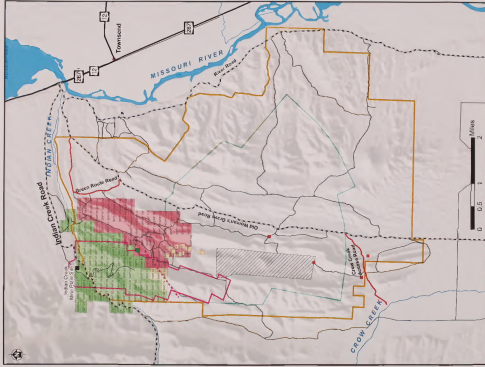
Figures 2-4, 2-5a, and 2-5b show the status of existing mineral claims relative to military mission for both Alternatives 2 and 3.

2.3.4 RESOURCE STEWARDSHIP

In general, the MTARNG would manage resources under the *Sikes Act* (U.S. Code Title 16, Sections 670a-670o), Army regulations governing Environmental Protection and enhancement of military ranges (Army Regulation 200-1), and in accordance with the MTARNG *Integrated Natural Resources Management Plan* (INRMP) and *Integrated Cultural Resources Management Plan* (ICRMP). The BLM would manage resources under *Federal Lands Policy Management Act* (Public Law 94-579, 43 U.S. Code 1701-1782), and the Butte Field Office *Resource Management Plan*.

VEGETATION MANAGEMENT

Management of vegetation resources in the LHTA remain with the BLM in the nonclosure area and would shift from the BLM to the MTARNG in the closure area with the exception of grazing. The MTARNG would assume responsibility for management of weed control, fire suppression, fire fuel management, timber, wildlife habitat improvement and protection in the closure area. The BLM would assume these responsibilities in the nonclosure area and manage grazing throughout the entire withdrawal area.



Legend

- Town
- Present LARS Boundary
- US Highway
- County Road
- Green: Designated Road
- Other Named Road
- Water

Range Features

- Range Town
- Mineral Spring District
- Look Springs
- John T. Lusk Ranger Zone
- High Location Area Impact Area
- 2.5 Mile Buffer Line

Mineral Features

- Mineral Features
- Mineral Spring District
- No Conflict
- Conflicts with Proposed Military Use
- Confirmed Use



ARLIS 2010-01-01 10:00 AM
ARLIS 2010-01-01 10:00 AM
ARLIS 2010-01-01 10:00 AM

FIGURE 2-50
PLACER CLAIM CONFLICTS
WITH
MILITARY USE

MTARNG management of these activities would be conducted in accordance with the *Sikes Act* and the LHTA *Integrated Natural Resource Management Plan* (MTARNG 2001). The MTARNG would be responsible for spraying noxious weeds in high traffic areas of the closure area such as near roadways and training facilities in accordance with the LHTA *Integrated Pest Management Plan* (MTARNG 1998b). The MTARNG would continue to take all necessary actions to suppress any fire caused by their activities in both the closure and nonclosure areas. The MTARNG would continue to implement the fire suppression policy of described in the *Fire Suppression Plan* (MTARNG 1985). MTARNG would bear all costs for suppression and control of fires resulting from MTARNG use. The MTARNG would provide a fire- capable tank truck and personnel trained in its use during exercises that could result in a fire. The MTARNG would not suppress fires occurring when no MTARNG personnel are on-site. The BLM would manage weed control, fire fuel management, timber, and wildlife habitat in accordance with the *Federal Land Policy and Management Act* in the nonclosure area. BLM would be responsible for spraying noxious weeds in high traffic areas such as near roadways and facilities in accordance with BLM weed control requirements. BLM would manage grazing throughout the LHTA.

CULTURAL RESOURCES

Cultural resources in the LHTA would be managed by the MTARNG in the closure area and the BLM in the nonclosure area. The MTARNG would manage preservation of cultural resources in accordance with the *Sikes Act* and the MTARNG *Integrated Cultural Resource Management Plan* (MTARNG 2002b). The BLM would manage preservation of cultural resources in accordance with the *Federal Land Policy and Management Act*. Under Alternative 2, both the MTARNG and BLM would serve as the liaison with, and be responsible to the Montana State Historic Preservation Office for cultural resources in their portions of the LHTA.

WILDLIFE

Under Alternative 2, wildlife habitat in the closure area would be managed by the MTARNG, and by the BLM in the nonclosure area.

OTHER NATURAL RESOURCES

The MTARNG would be responsible for management of soils, wetlands, air, and water quality in the closure area. The BLM would manage these resources in the nonclosure area. Natural resource management in the closure area would be conducted in accordance with the *Sikes Act* and the MTARNG *Integrated Natural Resource Management Plan* (MTARNG 2001). The MTARNG would implement existing soil erosion control programs described in the MTARNG *Integrated Natural Resource Management Plan* and complete an erosion inventory and control plan for the closure area. Natural resources in the nonclosure area would be managed by the BLM under *Federal Land Policy and Management Act*.

2.3.5 ROADS

Same as that described under Section 2.1.5.

2.3.6 LHTA WITHDRAWAL BOUNDARY

Same as that described under Section 2.1.6.

2.3.7 INHOLDINGS (PRIVATE AND STATE-OWNED LAND LOCATED WITHIN THE WITHDRAWAL AREA)

Under Alternative 2, any landowner (state or private) would be required to enter into one of two agreements presented below with the Army for each parcel of land:

Option A: Willing landowners could sell land held within the LHTA withdrawal area to the Army upon completion of the land withdrawal process. Because the MTARNG is not authorized to hold real estate, the Corps of Engineers would act as the real estate agent for the Secretary of the Army and would be responsible for acquisition of all land purchased by the Army. Purchase offers would be made at fair market value which would be calculated based on third-party appraisal. This option is subject to availability of funds on the part of the Army. If land purchase funds are not available, Option B would be required.

Option B: Landowners would retain ownership of their property, but sell an easement to the Army (with the Corps of Engineers acting as the agent) for the duration of the withdrawal. The easement would allow landowners to continue existing uses of their property but disallow uses such as building construction or other land disturbing activities that would conflict with the military mission and safety requirements at the LHTA.

2.3.8 UXO CLEARANCE ACTIVITIES

Same as described under Section 2.1.8.

2.3.9 PAYMENTS IN LIEU OF TAXES (PILT)

Under Alternative 2, PILT payments from the BLM for federal land within the LHTA would be reduced by the percentage of land no longer under BLM jurisdiction. This means that payments in lieu of taxes would be reduced to approximately 60 percent of the current expenditure.

2.4 ALTERNATIVE 3 — PREFERRED ALTERNATIVE

Alternative 3 is similar to Alternative 1 in that most of the agency management responsibilities for resource management would shift from the BLM to the MTARNG. Alternative 3 differs from Alternative 1 by provisions that adjust the MTARNG resource management approach to include management practices similar to those currently in place under BLM's *Federal Land Management Policy Act* and existing nonmilitary use would continue to be allowed. Differences between Alternatives 1 and 3 were developed as a result of recommendations made by stakeholders concerned about management of natural resources under the *Sikes Act* and public use of the LHTA. The stakeholder participation process and results are described in the *LHTA Withdrawal Scoping Report* (MTARNG 2005a). Alternative 3 is differentiated from Alternative 2 in that the MTARNG would assume most resource management responsibilities.

All actions described in Section 2.1 apply to Alternative 3. Under Alternative 3, the withdrawal area would be the same location, size and configuration as in Alternatives 1 and 2. This section presents the elements of Alternative 3 that are different from one or more of the other action alternatives (Alternatives 1 and 2).

2.4.1 WITHDRAWAL TENURE AND RANGE REQUIREMENTS

Same as described under Section 2.1.1.

2.4.2 MILITARY LAND USE

Military land use would be the same for Alternatives 1, 2, and 3 and is described under Section 2.1.2. However, see restrictions under non military land use below (Section 2.4.3).

2.4.3 NON MILITARY LAND USE AND RESOURCE MANAGEMENT

With the exception of minerals and wildlife, management of nonmilitary uses and resources on federal land at the LHTA would be conducted by the MTARNG. Under Alternative 3, activities managed by the MTARNG, on behalf of the Army, would include: public and agency access, travel management, real estate transactions, recreation, weed control, fire management, grazing permits, and right-of-way permits.

Under Alternative 3, the MTARNG (as opposed to the COE under Alternative 1) has already determined areas of conflict between the military land use or mission and civilian activities on private or BLM land. Under Alternative 3 mining would be prohibited only on mining claims currently designated as being in conflict with the MTARNG mission (red claims on Figures 2-5a and 2-5b). Except for these areas (red claims) mining and grazing activities consistent with existing mission range requirements would be allowed throughout the remainder of the LHTA, pending clearance of UXO by the MTARNG,

safe access and clearance determinations issued by the Department of Defense Explosives Safety Board, and approval of the activity by the BLM and/or the DEQ. Recreation, road travel, and utility corridors in permitted rights-of-way would continue to be allowed in the non-closure area.

The following subsections describe how uses of the LHTA and activities on the LHTA would be managed under Alternative 3. Proposed responsibilities for uses and activities on the LHTA are summarized in Table 2-6.

PUBLIC ACCESS

Public access would be the same as that described in Section 2.1.3.

RECREATION

Under Alternative 3, the MTARNG would adopt and implement all policies and restrictions described in the BLM *Elkhorns Travel Management Plan* as it applies to the LHTA. As under Alternative 1, the MTARNG would work with local citizens to implement a LHTA trails plan. A trails plan is currently under development by local citizens in cooperation with the Montana Department of Fish, Wildlife and Parks and the BLM.

GRAZING

Under Alternative 3, management responsibility of the use of the LHTA for grazing would shift from the BLM to the MTARNG. BLM-permitted grazing allotments shown in Figure 2-3 (portions of Dowdy Ditch, Section 33, and Limestone Hills allotments, and all of the Limestone East allotment) would remain in effect. Grazing use would be coordinated where possible with adjacent private operations and BLM permittees. The MTARNG would allow permit grazing under existing permit conditions until the end of the individual permit periods. After that time, the MTARNG would reissue permits under the same terms and conditions currently in place. Existing permit holders would have the option to renew their permits for a 20-year period. Permit conditions and range maintenance requirements would be the same as those established by the BLM under the *Federal Land Policy and Management Act*. Title 43, Chapter 8A, Subchapter 1 Section 315q "withdrawal of lands for war or national defense purposes; payment for cancellation of permits or licenses," as described under Section 2.2.3, would not apply to the LHTA withdrawal area.

Range conditions for the four grazing allotments in the LHTA would be assessed by the MTARNG Environmental Office on an annual basis for condition of the vegetation, soils, and water use. Any changes in permit conditions, such as maximum allowable animal units monthly (AUMs) or physical improvements to the allotment and potential scheduling conflicts, would be negotiated at annual meetings between the grazers and the MTARNG.

**TABLE 2-6
AGENCY MANAGEMENT RESPONSIBILITIES
ALTERNATIVE 3
FEDERAL LAND WITHIN THE LHTA**

Resource	Activity	Primary Responsible Agency^a
Land	Military Land Use	MTARNG
	Access	MTARNG
	Recreation	MTARNG
	Real Estate	MTARNG
	Grazing	MTARNG
	Rights-of-Way	MTARNG
	Water Rights	DNRC
	Mining	BLM
Vegetation	Weed Control	MTARNG
	Fire Management	MTARNG
	Timber Management	MTARNG
	Wildlife Habitat	MTARNG
	Vegetation Removal for UXO Clearance	MTARNG
Wetlands	All Activities	MTARNG
Special Status Species	All Activities	FWS/MTARNG
Minerals	All Activities	BLM
Soils	All Activities	MTARNG
Cultural	All Activities	MTARNG
Wildlife	All Activities	FWP/MTARNG
Air (includes Noise)	All Activities	MTARNG
Water Quality	All Activities	MTARNG
Infrastructure	Non-county Road Maintenance	MTARNG
	County Road Maintenance	Broadwater County
	Waste Management	MTARNG
	MTARNG Facilities	MTARNG

Notes:

MTARNG – Montana Army National Guard

DNRC – Department of Natural Resources and Conservation

BLM – U.S. Bureau of Land Management

FWS – U.S. Fish and Wildlife Service

FWP – Montana Department of Fish, Wildlife and Parks

UXO – Unexploded Ordnance

^a The Primary Responsible Agency is the agency that would (1) be responsible for directing the management of the resource or activity, (2) provide the contact personnel for questions, concerns, or requests relevant to the resource or activity, (3) provide the funding and oversight for any relevant management activities, (4) determine the overriding legal, regulatory and guidance framework for management activities (under the BLM, it would be the *Federal Land Policy and Management Act*, and under the MTARNG, it would be the *Sikes Act*).

RIGHTS-OF-WAY

Under Alternative 3, the MTARNG would be responsible for managing and permitting all new rights-of-way. Existing rights-of-way in the LHTA would be evaluated by the Army Corps of Engineers or the MTARNG for impact on military use of the LHTA; rights-of-way determined to have no impact would be permitted to remain. Under Alternative 3, the Army would not exercise its authority to terminate existing rights-of-way. All existing rights-of-way grants would be renegotiated between the lessee and the Corps of Engineers and associated fees would be eliminated or paid to the Corps of Engineers. All new rights-of-way grants and associated fees would be negotiated with and paid to the Corps of Engineers.

MINING AND MINERAL RIGHTS

Management of mineral resources would be same as that described under Alternative 2 and repeated below. Mineral resources would be managed by the BLM in accordance with the Butte Field Office *Resource Management Plan*, the *General Mining Law* and other provisions described below.

- Provisions described in Section 2.1.3
- All mineral rights associated with mining claims authorized by the *General Mining Law* and administered by BLM in the LHTA, which are determined by the MTARNG to have no significant impact to military use or mission in the LHTA, would remain in effect after the withdrawal legislation is enacted. The general locations of mining claims currently held by Graymont in the LHTA are shown in Figure 2-4.
- Mining claims that are in conflict with or could impact military use and mission are limited to those claims shown in red on Figures 2-5a and 2-5b. The specific claims identified as having the potential to conflict with military use of the LHTA under Alternative 3 are also listed in Appendix E. The Army would require validation of mining claims determined by the MTARNG to have an impact on military use, and the mineral rights associated with these claims could be acquired by the COE on behalf of the Army.
- Mineral claims identified by the MTARNG to have no significant impact to military use under Alternative 3 are in all cases located outside of the surface danger zones and impact area, are shown as green on Figures 2-5a, and 2-5b, and are also listed in Appendix E.
- Mining claims not in conflict with proposed military land or mission, but requiring coordinated action including: clearing the area of UXO, effectively timing surface activity in Surface Danger Zones, safety and clearance determinations issued by the Department of Defense Explosives Safety Board, and acceptance of that clearance by the BLM prior to the BLM (and DEQ) approving and permitting uses such as exploration and mining, are shown in yellow on figures 2-5a, and 2-5b.
- New Mine Operating Permits approved by the DEQ and BLM would be allowed (This assumes UXO was cleared by the MTARNG, and that safe access was approved by the Department of Defense Explosives Safety Board). No new mining claims would be allowed in the LHTA.
- All operations within the permitted area, and activities on mining claims within the LHTA would be subject to the terms and conditions outlined in Memorandum of Agreement between the MTARNG, BLM and Graymont (Appendix F).

- Existing mine permit conditions and restrictions with respect to Graymont operations would not change as the result of the Alternative 2 withdrawal action.

Figures 2-4, 2-5a, and 2-5b show the status of existing mineral claims relative to military mission for both Alternatives 2 and 3.

2.4.4 RESOURCE MANAGEMENT RESPONSIBILITIES AND PRACTICES

Management of vegetation in the proposed withdrawal area would be the same as described under Alternative 1 and is repeated in this section. Resources would be managed under the *Sikes Act* (U.S. Code Title 16, Sections 670a-670o) and in accordance with the most current version of the MTARNG *Integrated Natural Resources Management Plan* and *Integrated Cultural Resources Management Plan*. Under Alternative 3, these plans would be revised to reflect the change in administration from the BLM to the MTARNG. Proposed management responsibilities are summarized in Table 2-6.

VEGETATION MANAGEMENT

Under Alternative 3, resource stewardship would shift from the BLM to the MTARNG. Vegetation management activities include: weed control, fire suppression, fire fuel management, timber, wildlife habitat improvement and protection, UXO clearance activities, and grazing permits. These activities would be conducted in accordance with the *Sikes Act* and the LHTA *Integrated Resource Management Plan* (MTARNG 2001). The MTARNG would direct the spraying of noxious weeds in high traffic areas such as near roadways and training facilities and in accordance with the LHTA *Integrated Pest Management Plan* (MTARNG 1998b). The MTARNG would continue to implement a fire suppression policy of "total immediate suppression" as described in the *Fire Suppression Plan* included in all MTARNG range use manuals. The MTARNG proposes to enter into a mutual aid agreement with the Forest Service for fire suppression when no MTARNG personnel are on-site.

CULTURAL RESOURCES

The MTARNG would manage preservation of cultural resources throughout the entire LHTA in accordance with the *Sikes Act* and the MTARNG *Integrated Cultural Resource Management Plan* (MTARNG 2002b). Under Alternative 3, the MTARNG would serve as the liaison with, and be responsible to, the Montana State Historic Preservation Office for cultural resources in the LHTA. When required, the MTARNG Cultural Resource Manager would be assisted by individuals who meet the Secretary of Interior's professional qualifications standards for history or archaeology.

WILDLIFE

Under Alternative 3, the MTARNG would manage wildlife habitat throughout the LHTA.

OTHER NATURAL RESOURCES

Under Alternative 3, responsibility for the stewardship of soils, wetlands, air, and water quality throughout the LHTA would shift from the BLM to the MTARNG. Natural resource management would be conducted in accordance with the *Sikes Act* and the MTARNG *Integrated Natural Resource Management Plan* (MTARNG 2001).

2.4.5 ROADS

Road management would be the same as that described under Section 2.1.5.

2.4.6 LHTA WITHDRAWAL BOUNDARY

Boundaries would be the same as those described under Section 2.1.6.

2.4.7 INHOLDINGS (PRIVATE AND STATE-OWNED LAND LOCATED WITHIN THE WITHDRAWAL AREA)

As under Alternative 2, Alternative 3 provides that any landowner (state or private) would be required to enter into one of two agreements presented below with the Army for each parcel of land:

Option A: Willing landowners could sell land held within the LHTA withdrawal area to the Army upon completion of the land withdrawal process. Because the MTARNG is not authorized to hold real estate, the Corps of Engineers would act as the real estate agent for the Secretary of the Army and would be responsible for acquisition of all land purchased by the Army. Purchase offers would be made at fair market value which would be calculated based on third-party appraisal. This option is subject to availability of funds on the part of the Army. If land purchase funds are not available, Option B would be required.

Option B: Landowners would retain ownership of their property, but sell an easement to the Army (with the Corps of Engineers acting as the agent) for the duration of the withdrawal. The easement would allow landowners to continue existing uses of their property but disallow uses such as building construction or other land disturbing that would conflict with the military mission and safety requirements at the LHTA.

2.4.8 UXO CLEARANCE ACTIVITIES

Same as described under Section 2.1.8.

2.4.9 PAYMENTS IN LIEU OF TAXES (PILT)

As under Alternative 1, payments in lieu of taxes from the BLM for federal land within the LHTA would be discontinued because the land would no longer be under BLM jurisdiction and most natural resources and activities would be managed by another agency.

2.5 ALTERNATIVE 4 — NO ACTION

An environmental analysis of a no action alternative is required by Council on Environmental Quality regulations to serve as a benchmark against which the action alternatives can be evaluated. Alternative 4 describes the management and use of the LHTA if no land withdrawal takes place. Under Alternative 4, the MTARNG would continue to use the LHTA as it is currently used under the existing right-of-way grant until a date on or before March 26, 2014 when the MTARNG would cease any use or management of the LHTA. For the most part, the no action alternative represents existing conditions for the period of time the right-of-way grant is in effect. The difference between existing conditions and the no action alternative during that period of time would be in the military use of the LHTA.

2.5.1 MILITARY USE TENURE AND RANGE REQUIREMENTS

Under Alternative 4, the MTARNG would continue to use the LHTA as allowed in the existing right-of-way grant until anytime before March 26, 2014. Under Alternative 4, the MTARNG would likely cease use of the LHTA long before 2014, depending on the availability of funding. Range requirements are listed in the right-of-way grant in Appendix A.

2.5.2 MILITARY LAND USE

The MTARNG would continue to use the LHTA as described in the *Affected Environment* in Section 3.1. The right-of-way grant (Appendix A) allows the following military practices on the LHTA:

- The firing of armored tanks, mortars, and howitzers and their support weapons, including live ammunition
- Helicopter training and firing of all associated weapons with live ammunition
- Infantry maneuvers and firing exercises, including small arms, grenades, and mortars
- Training of various support groups, usually involving a bivouac, perimeter defense, and small arms firing
- Equipment maintenance and testing exercises
- Construction and maintenance of improvements – all existing improvements and all planned improvements approved by past permits would be authorized
- Use of the community gravel pit as part of MTARNG's range maintenance as long as MTARNG meets BLM requirements for maintaining the gravel quarry area; large withdrawals of material from the pit would be subject to approval by the BLM

2.5.3 NON MILITARY LAND USE AND RESOURCE MANAGEMENT

Non-military uses on federal land throughout the entire LHTA would continue to be managed by the BLM under the Butte Field Office *Resource Management Plan* which would include continued delegation to, and oversight of, some MTARNG resource management activities. Management of resources and uses in the LHTA would continue as they are currently as long as the LHTA was used by the MTARNG. Recreation, road travel, and utility corridors in permitted rights-of-way would continue within the area open for access to the public. Grazing would be permitted throughout the LHTA on the same grazing allotments, and mining under the existing approved mine Operating Permit and plan of operations would continue. All natural and cultural resources and uses of resources would continue to be managed by the BLM. Under Alternative 4, activities managed by the MTARNG while present at the LHTA would include military training and public access. After the MTARNG ceased use of the LHTA, public access would be managed by the BLM. The following subsections describe how uses of the LHTA and activities on the LHTA would be managed under the no action alternative. Agency responsibilities for uses and activities on the LHTA are summarized in Table 2-7.

PUBLIC ACCESS WHILE THE MTARNG CONTINUES TO USE THE LHTA

For the purposes of managing hazard risk by military training exercises and unexploded ordnance (UXO), the BLM would likely continue to portion the LHTA into two areas (closure and nonclosure) until UXO risk is reduced to acceptable levels for surface activities.

Access and public use of the LHTA would not change from existing conditions in that the closed area in the LHTA would remain under emergency closure. Under the existing right-of-way grant, the current closure area is about 8,573 acres in size and includes all lands within the LHTA that are west of Old Woman's Grave Road and the Green Route Road (Table 2-1). The closure area under the no action alternative would include the same area as the existing area. This closure area would continue to be used for gunnery training until the MTARNG ceased use of the LHTA. Access to the closure area would continue to be provided to any individual who sought and obtained an escort with explosive ordnance disposal (EOD) training and approved by the MTARNG.

As with the existing situation, all non-military users of the LHTA would have access for surface use to the non-closure area year-around. Alternative 4 would not restrict private land owners from accessing their inholdings while the MTARNG continued to be present at the LHTA. During training exercises, land users would be requested to wait until the MTARNG suspends firing before proceeding through the LHTA in accordance to the Road Guard guidelines listed in Appendix D. Native Americans would have access to LHTA sites and resources that are of religious importance or are important to the continuance of their cultures (for example, areas containing traditionally used plants and traditionally used hunting areas), consistent with the military mission, appropriate laws and regulations, and subject to the same safety, security, and resource considerations as the general public.

**TABLE 2-7
AGENCY MANAGEMENT RESPONSIBILITIES UNTIL 2014
ALTERNATIVE 4
FEDERAL LAND WITHIN THE LHTA**

Resource	Activity	Primary Responsible Agency^a
Land	Military Land Use	MTARNG until ROW ends
	Access	MTARNG until 2014 BLM after ROW ends
	Recreation	BLM
	Real Estate	BLM
	Grazing	BLM
	Rights-of-Way	BLM
	Water Rights	DNRC
	Mining	BLM
Vegetation	Weed Control	BLM
	Fire Management	BLM
	Timber Management	BLM
	Wildlife Habitat	BLM
	Vegetation Removal for UXO Clearance	MTARNG/BLM until 2014
Wetlands	All Activities	BLM
Special Status Species	All Activities	FWS/BLM
Minerals	All Activities	BLM
Soils	All Activities	BLM
Cultural	All Activities	BLM
Wildlife	All Activities	FWPP/BLM
Air (includes Noise)	All Activities	BLM
Water Quality	All Activities	BLM
Infrastructure	Non-county Road Maintenance	BLM
	County Road Maintenance	Broadwater County
	Waste Management (including UXO)	BLM/MTARNG until 2014 BLM/ARMY after ROW
	MTARNG Facilities	MTARNG until 2014
		BLM after ROW is terminated

Notes:

MTARNG – Montana Army National Guard

DNRC – Department of Natural Resources and Conservation

BLM – U.S. Bureau of Land Management

FWS – U.S. Fish and Wildlife Service

FWP – Montana Department of Fish, Wildlife and Parks

ROW – LHTA right-of-way grant

UXO – Unexploded Ordnance

^a The Primary Responsible Agency is the agency that would (1) be responsible for directing the management of the resource or activity, (2) provide the contact personnel for questions, concerns, or requests relevant to the resource or activity, (3) provide the funding and oversight for any relevant management activities, (4) determine the overriding legal, regulatory and guidance framework for management activities (all natural resource management would be in accordance with the *Federal Land Policy and Management Act*).

PUBLIC ACCESS AFTER TERMINATION OF THE RIGHT-OF-WAY GRANT

Under current conditions, the MTARNG, on behalf of the Army, provides the BLM with recommended access precautions based on public safety. The MTARNG bases its safety determinations on decisions issued by the Department of Defense Explosives Safety Board and the MTARNG's knowledge of past and ongoing military use at the LHTA. After the MTARNG ceased use of the LHTA, BLM would terminate the right-of-way grant at the request of the MTARNG. At that point, the UXO hazard risk characterization and UXO cleanup would likely become the shared responsibility of the Army, the State of Montana, and the BLM. Because all or one of these agencies could use different criteria to determine UXO hazard risk, the level of public access to the LHTA after termination of the right-of-way grant is unknown.

RECREATION

Under Alternative 4, the BLM would continue to implement all recreation policies and restrictions described in the BLM *Elkhorns Travel Management Plan* and most current Butte Field Office *Resource Management Plan*. Until the right-of-way grant is terminated, no recreation would be allowed in the closure area without permission and escort by (or escort approved by) the MTARNG. After the LHTA is no longer used by the MTARNG, the closure area would likely remain closed to public access until UXO hazard risk reached acceptable levels for recreational use.

RIGHTS-OF-WAY

Rights-of-way would be managed by the BLM throughout the LHTA. Applications for new rights-of-way or changes in existing rights-of-way would receive approval by the BLM subject to the *Federal Lands Policy and Management Act* and the MTARNG regarding safety and mission range requirements. The status of rights-of-way in the closure area could change depending on the UXO hazard risk determination. Existing rights-of way grants in the nonclosure area would not be changed beyond the existing contract terms. All grant fees would continue to be paid to the BLM.

MINING AND MINERAL RIGHTS

During use of the LHTA under the right-of-way grant, the MTARNG would continue to obtain the minimum land area, uses, and rights necessary to accomplish training objectives in a safe and generally unimpeded manner. Range requirements for meeting training objectives in a safe and unimpeded manner are described in Appendix A.

Mineral resources would be managed by the BLM in accordance with the Butte Field Office *Resource Management Plan*, the *General Mining Law* and other provisions described below.

- While the MTARNG continues to use the LHTA for military training, any future proposals to the BLM for exploration, extraction, or production of locatable minerals (such as gold, zinc,

copper, limestone or dolomite), salable minerals (such as sand and gravel), and leasable minerals (such as oil, gas, and geothermal resources) requiring access and surface disturbances would require concurrence by the Army based on access to training areas and on safety issues prior to permitting by the Montana Department of Environmental Quality and the BLM. After termination of the MTARNG LHTA right-of-way, future mining proposals would be reviewed for approval for safety concerns by an agent of the Army who, in turn, would provide safety recommendations to the BLM.

- Under Alternative 4, the Army would not seek to acquire nonfederal land located within the training area that could impact the military mission. The Army would not require validation of mining claims determined by the MTARNG to have an impact on military use, nor would they seek to acquire mineral rights.
- While the MTARNG used the LHTA, all operations within the approved mine permit area, and activities on mining claims within the LHTA would be subject to the terms and conditions outlined in the Memorandum of Understanding with the BLM, MTARNG, and Graymont (Appendix F).
- The existing mine permit conditions and restrictions with respect to Graymont operations would not change as the result of the no action alternative until the expiration of the Right-of-Way grant in 2014.
- The MTARNG currently recommends to the BLM to permit surface disturbance only in areas that have been cleared for surface disturbance as approved by the Department of Defense Explosives Safety Board. After termination of the right-of-way grant, the Army, or an agent of the Army (such as the Army Corps of Engineers) would become responsible for making recommendations to the BLM regarding surface disturbance in the closure area. This EIS assumes that recommendations to the BLM after termination of the right-of-way grant could prohibit all surface disturbance in areas contaminated with UXO.

VEGETATION MANAGEMENT

The BLM would continue to manage vegetation resources in the LHTA. Until the right-of-way grant is terminated, the BLM would likely provide oversight to the MTARNG for the management of weed control, fire suppression, fire fuel management, timber, wildlife habitat improvement and protection activities. The BLM would directly manage grazing throughout the withdrawal area. After the MTARNG no longer conducts military training at the LHTA, the BLM would assume direct management of all vegetation use and protection practices.

MTARNG management of weed control, fire suppression, fire fuel management, timber and wildlife habitat protection would be conducted in accordance with the LHTA *Integrated Natural Resource Management Plan* (MTARNG 2001) upon BLM approval. The MTARNG would be responsible for spraying noxious weeds in high traffic areas of the closure area such as near roadways and training facilities in accordance with the LHTA *Integrated Pest Management Plan* (MTARNG 1998b). The MTARNG would continue to take all necessary actions to suppress any fire caused by their activities in both the closure and nonclosure areas. The MTARNG would continue to implement the fire

suppression policy of described in the *Fire Suppression Plan* (MTARNG 1985). The MTARNG would bear all costs for suppression and control of fires resulting from MTARNG use. The MTARNG would provide a fire-capable tank truck and personnel trained in its use during exercises that could result in a fire. The MTARNG would not suppress fires occurring when no MTARNG personnel are on-site.

While the right-of-way remained in effect, use of the LHTA for grazing would continue to be managed by the BLM under the *Federal Land Policy Management Act* and in accordance with regulations governing grazing management (43CFR4100) and the *Butte Field Office Resource Management Plan*. BLM would continue to manage all grazing allotments within the LHTA (both closure and nonclosure areas). Under Alternative 4, the BLM would continue to determine grazing allotment permit conditions. Grazing allotments located all or partially within the existing LHTA area are: Limestone Hills, Dowdy Ditch, Section 33, Limestone East, Indian Creek, and Bald Hills (Figure 2-3).

After termination of the right-of-way grant, the Army or an agent of the Army (such as the Army Corps of Engineers) would become responsible for making safety recommendations to the BLM. This EIS assumes that safety recommendations under the no action alternative could include a prohibition of any access to a UXO-hazard area, including use of the closure area for grazing.

2.5.4 RESOURCE STEWARDSHIP

CULTURAL RESOURCES

Cultural resources in the LHTA would continue to be managed by the BLM as oversight to the MTARNG. BLM would continue to be responsible for consultation with the Montana State Historic Preservation Office for cultural resources in the LHTA.

WILDLIFE

The LHTA is located in the Elkhorn Mountains. Most of the Elkhorn Mountains are managed cooperatively among the U.S. Forest Service (Helena and Beaverhead-Deerlodge National Forests), the BLM, and Montana Department of Fish, Wildlife, and Parks under a Memorandum of Understanding (MOU). The MOU outlines the principles and objectives that the agencies have set out as the way to manage the Elkhorn Mountains as an ecosystem across administrative boundaries. Under the no action alternative, the MTARNG would request to be a signator on the MOU and comply with principles and objectives set forth in the MOU for the duration of their use of the LHTA. The BLM would continue to have management jurisdiction for all natural resource management at the LHTA, and would provide oversight to the MTARNG. The MTARNG would coordinate with the Montana Department of Fish, Wildlife, and Parks to manage wildlife habitat in a way that meets the needs of the State of Montana and the military mission.

The Montana Department of Fish, Wildlife, and Parks would continue to control game harvest at the LHTA and surrounding property. The closure area would continue to be closed to hunting, trapping,

and any public access. Under all alternatives, land cleared of UXO would be reevaluated for possible public hunting access. While the LHTA is used for military training, the entire LHTA would continue to be closed to military training exercises from December through the first Sunday in April to protect mule deer and elk winter range.

The MTARNG would amend their *Integrated Resource Management Plan* to require annual planning meetings with the Montana Department of Fish, Wildlife, and Parks to further MTARNG understanding of activities that could adversely impact wildlife in the closure area. The BLM would continue to adhere to the Elkhorn Mountains cooperative agreement for management of wildlife habitat in the nonclosure area.

NATURAL RESOURCES

The BLM would continue to be responsible for management of natural resources including vegetation, soils, wetlands, air, and water quality under the *Federal Lands Policy and Management Act* and the most current Butte Field Office *Resource Management Plan*. Wetlands protection throughout the LHTA is required by Executive Order 11990, *Protection of Wetlands*. All activities in the LHTA would be required to comply with the *Montana Clean Water Act* and the *Montana Clean Air Act*.

2.5.5 ROADS

Road management within the LHTA would be the same as that described under Section 2.1.5 until termination of the right-of-way grant. After that time, road use would be the same with the exception that vehicles would no longer be delayed due to military training activities.

2.5.6 LHTA WITHDRAWAL BOUNDARY

The LHTA boundary and acreage would remain the same as the existing boundary and acreage shown in Figure 1-2 and Table 2-1.

2.5.7 INHOLDINGS (PRIVATE AND STATE-OWNED LAND LOCATED WITHIN THE WITHDRAWAL AREA)

Under Alternative 4, the Army would not seek to acquire nonfederal land located within the withdrawal area that could impact the military mission.

2.5.8 UXO CLEARANCE ACTIVITIES

Portions of the LHTA have been used for live-fire weapons training resulting in a risk of encountering UXO throughout the training area. The area proposed for continued closure to public access also contains an unacceptable risk of encountering UXO both on the surface and subsurface. Under Alternative 4, current UXO hazard reduction activities would continue at the approximate rate of 25 acres per year within the Graymont mine permit boundary while the LHTA is used for military training. The MTARNG would continue to prioritize clearance activities so that UXO hazard would be removed in the mine permit area before anywhere else. After termination of military training at the LHTA, the MTARNG anticipates that LHTA would become a military munitions response program site where upon it would be ranked using a risk prioritization model. The Army Corps of Engineers, Seattle District, would be responsible for managing UXO hazard.

CLEARANCE ACTIVITIES AND PRIORITIES UNDER THE RIGHT-OF-WAY GRANT

During clearance activities, MTARNG would continue to adopt Department of Defense Explosives Safety Board requirements (DoD 2004, DoD 1996) and the UXO clearance plan described in the MTARNG Explosive Safety Submission (ESS) approved by the Department of Defense Explosives Safety Board (MTARNG 2003a). Under the 2003 Explosive Safety Submission, the MTARNG would continue to accommodate uninterrupted mineral extraction in areas identified by Graymont by clearing UXO in the approved mine permit area first. The portion of the LHTA targeted for highest priority UXO clearance is the area shown on Figure 2-4 as the southern extent of the Graymont Mine permit area. The MTARNG would continue to strive to achieve acceptable levels of UXO clearance in the mine permit area by 2008. Under Alternative 4, the BLM would provide Graymont with authorization to proceed with mining in areas within its approved mine permit area that have been approved by the Department of Defense Explosives Safety Board as adequately cleared of UXO hazards as long as the right-of-way grant remains in place. Authorization would be provided on a routine basis at a frequency of at least once per year as each portion of the permit area is cleared. UXO clearance elsewhere in the closure area would not occur while used as an active range.

UXO CLEARANCE AFTER TERMINATION OF MTARNG USE OF THE LHTA

Once the MTARNG discontinues use of the LHTA, the BLM would require the Army to continue clearance activities. The responsible agent for clearing UXO would likely be one or more of the following: The MTARNG, the State of Montana, the Army, an agent of the Army (such as the Army Corps of Engineers), or the EPA. MTARNG funding for UXO clearance at the LHTA is partially dependent upon the ability of the Guard to use the LHTA for military training. Depending on the status of the LHTA at the time of right-of-way termination, either the state or federal government would become the responsible party for cleanup. Either way, UXO cleanup priorities and rate of clearance are unpredictable. This EIS assumes that clearance priorities would change to consider safety hazards to all users and that the clearance rate would slow after right-of-way termination.

2.5.9 PAYMENTS IN LIEU OF TAXES (PILT)

The BLM currently provides Broadwater County with approximately \$26,000 per year as payment for LHTA federal land managed by the BLM in lieu of taxes. Under the no action alternative, payments in lieu of taxes by the BLM would continue at approximately the same rate.

2.6 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Council on Environmental Quality regulations require consideration of all reasonable alternatives that would fulfill the purpose and need of the proposed action. Reasonable alternatives include those which are practical or feasible from a technical and economic standpoint, support the underlying purpose of and need for the proposed action, and are ready for decision.

In accordance with *National Environmental Policy Act* requirements (Code of Federal Regulations, Title 40, Section 1506.2[d]), an alternative that is outside the legal jurisdiction of the MTARNG, the Army, or the BLM may still be analyzed if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered. Reasonable alternatives that are outside the scope of what Congress has approved or funded can be evaluated because the EIS may serve as the basis for modifying the Congressional approval or funding in light of goals and policies of the *National Environmental Policy Act*.

Alternatives that were considered but dismissed were eliminated from detailed analysis based on a set of selection criteria developed by the MTARNG and the BLM. This section lists the selection criteria, describes alternatives to the proposed action that were eliminated from detailed analysis and explains why they were eliminated.

2.6.1 SELECTION CRITERIA

These criteria were developed by the MTARNG and the BLM before and during the scoping process. They assisted the agencies in identifying alternatives that would support the underlying purpose and need of the proposed action, are ready for decision, and would be practical or feasible from a technical or economic standpoint. An alternative selected for detailed analysis must meet the following criteria:

- Meet current and future mission capabilities for local, state, and federal agencies responsible for National defense and homeland security.
- Meet Department of Defense criteria for military value of a training area. In summary, that criteria is an area suitable for maneuver by ground, naval or air forces throughout a diversity of climate, terrain, and staging areas for the use of the armed forces in homeland defense missions.
- Have sufficient area to safely accommodate current and future gunnery training for the following activities: realistic maneuver training, a small arms firing range, an impact area for inert training rounds and high explosive rounds, range safety fans, surface danger zones, land navigation courses, dismounted infantry tactic areas, drop zones, bivouac areas, and tracked/wheeled vehicle driving courses. This area for the MTARNG has been calculated to be approximately 19,000 acres (Appendix C).
- Place the MTARNG in full control of access to any land within the LHTA to the extent needed to meet safety requirements.

- Enable agencies to effectively manage and protect resources at the LHTA.
- Adhere to BLM and Army policies regarding appropriate management and use of land potentially containing unexploded ordnance.
- Permit only nonmilitary land use that is compatible with the MTARNG's ability to meet its training requirements. Nonmilitary buildings or structures occupied in whole or in part by human beings are not compatible with MTARNG's ability to meet training requirements (as required by *Army Pamphlet Number 385-63*, December 15, 1999).
- Be located within 100 convoy miles from the MTARNG Training Site Headquarters at Fort Harrison. This distance is the maximum allowed between combined garrison training centers in accordance with Army Regulation 350-2. The training time is based on a 16-hour multiple unit training assembly (MUTA 4) and the travel time is based on a convoy speed of 45 miles per hour.
- Be located in an area having adequate water resources available for water purification and fire suppression training purposes. Approximately 140,000 gallons of water per annual training exercise is estimated to be needed.
- Be located outside of any area underlying airspace controlled by the Federal Aviation Administration.
- Minimize changes or disturbance to existing nonmilitary land use resulting from the withdrawal.

2.6.2 ALTERNATIVES CONSIDERED BUT DISMISSED

Alternatives considered but dismissed did not meet one or more of the selection criteria necessary to meet the purpose and need of the proposed action. Selection criteria are listed in Section 2.6.1. Alternatives considered and described in this section addressed alternative locations, alternative training methods, alternative means of acquiring the LHTA, alternative boundaries, alternative methods of addressing mineral uses, and land stewardship alternatives.

ALTERNATIVE LOCATIONS

Two alternative locations in Montana and seven outside Montana were considered for analysis. The MTARNG conducted an alternatives analysis study in March 1998 (MTARNG 1998a) and evaluated alternative locations for cost comparison in 2002 (Proposal for a Major Land Withdrawal in Appendix B).

Use of Fort Harrison as an alternative training location: This alternative was examined in terms of redesigning the range complex at Fort Harrison and / or acquiring additional land adjacent to Fort Harrison. Fort Harrison consists of approximately 8,500 acres of which 7,000 acres is available for training. The terrain is generally flat, surrounded by hills with mountainous terrain within two miles of the cantonment area. A battalion-size combat arms or combat service support unit conducting non-live fire training can be accommodated at Fort Harrison at one time. Elevations vary from 3,860 to 4,360

feet. Inhabited areas that include residences, roadways and the Veterans Administration Hospital are within one mile of Fort Harrison.

Use of Fort Harrison as an alternative training location includes the redesign of current ranges to create maneuver areas and accommodate weapons system surface danger zones, coupled with acquisition of additional land. Land potentially available for acquisition includes a 720-acre area of adjacent land and approximately 920 acres of land in an adjacent area currently used by the MTARNG as the Cherry Creek Training Area. This area is used through an agreement with the landowner. The MTARNG currently conducts training exercises that include limited dismounted tactics and land navigation training. Authorized weapons systems are individual weapons and small arms using blank ammunition only. The area is not usable for training that requires multi-purpose machine gun use. Redesign of the range complex at Fort Harrison and the acquisition of adjacent land would not result in adequate space to accommodate the necessary surface danger zones and maneuverability needed for training exercises currently conducted at the LHTA and would not meet the purpose and need of the proposed action. Under this alternative, the following selection criteria would not be met:

- Meet current and future mission capabilities for local, state, and federal agencies responsible for National defense and homeland security.
- Meet Department of Defense criteria for military value of a training area as stated in the *Federal Register* Volume (68 FR74221 C). In summary, that criterion is: an area suitable for maneuver by ground, naval or air forces throughout a diversity of climate, terrain, and staging areas for the use of the Armed Forces in homeland defense missions.
- Have sufficient area to safely accommodate current and future gunnery training for the following activities: realistic maneuver training, a small arms firing range, an impact area for inert training rounds and high explosive rounds, range safety fans, surface danger zones, land navigation courses, dismounted infantry tactic areas, drop zones, bivouac areas, and tracked/wheeled vehicle driving courses.

Develop a site located in Blaine County near Fort Belknap. This site is approximately 9,600 acres located west of the Fort Belknap Indian Reservation. The site is a mix of federal, state, private and Indian trust land. Approximately half of the site is owned by the Fort Belknap Indian Reservation. The site was initially evaluated by the MTARNG in 2002 for the purpose of developing an air-to-ground combat training range. Because the proposed use of the area was not supported by the Fort Belknap Reservation, the MTARNG did not proceed with further evaluation. The Blaine County Fort Belknap Site does not meet purpose and need for the proposed action based on the following selection criteria:

- Have sufficient area to safely accommodate current and future gunnery training for the following activities: realistic maneuver training, a small arms firing range, an impact area for inert training rounds and high explosive rounds, range safety fans, surface danger zones, land navigation courses, dismounted infantry tactic areas, drop zones, bivouac areas, and tracked/wheeled vehicle driving courses.
- Be located within 100 convoy miles from the MTARNG Training Site Headquarters at Fort Harrison.

Transport to troop units to existing out of state training areas. Seven military installations were evaluated for use by the MTARNG as alternative locations to the proposed action. No single installation is adequate to accommodate all MTARNG units that train at the LHTA. However, all units could be trained at separate installations. The following table lists the alternative training sites considered for each MTARNG unit currently training at the LHTA:

<u>MTARNG Unit</u>	<u>Alternative Training Site</u>
I-163 rd Infantry Battalion	Orchard Training Area near Boise, Idaho
I-190 th Field Artillery Battalion	Guernsey Training Area near Cheyenne, Wyoming
Troop E 163 rd Cavalry	Fort Irwin National Training Center near Barstow, California
I-189 th Aviation Battalion	Hill Air Force Base at Camp Williams, Utah
631 st Chemical Company	Fort Knox in Central Kentucky
3669 th Maintenance Battalion	Camp Dodge near Des Moines, Iowa
443 rd Quartermaster Company	Joint Readiness Training Center at Fort Polk, Louisiana

These alternative military installations were evaluated for the cost of moving a unit from Fort Harrison. This cost would include transportation, work hours, and billeting costs were found to be infeasible from an economic standpoint (MTARNG 2002c). Use of existing out-of-state training areas does not meet the purpose and need of the proposed action based on the following selection criteria:

- Be located within 100 convoy miles from the MTARNG Training Site Headquarters at Fort Harrison. This distance is the maximum allowed between combined garrison training centers in accordance with Army Regulation 350-2. The training time is based on a 16-hour multiple unit training assembly (MUTA 4) and the travel time is based on a convoy speed of 45 miles per hour.
- Transfer primary liability for hazard risk from UXO at the LHTA and live-fire training exercises from BLM to the MTARNG.

Replace field training with training devices and simulations. The MTARNG currently participates in the Simulations in Training and Advanced Readiness (SIMITAR) Program and uses several simulation devices including the Bradley mobile conduct of fire trainer, the Bradley unit conduct of fire trainer, and a re-configurable simulation instrument applicable to both Bradley and M-1 tank simulations developed by the Defense Advanced Research Projects Agency. Most of these simulation devices are useful for basic maneuver tactics on an individual basis. They do not provide realistic combat training nor are they designed to train soldiers as a cooperative unit. Current National Guard Bureau training standards require training that includes live-fire and tracked vehicle maneuvers which cannot be provided through simulation training exercises. This alternative does not meet the following selection criteria necessary to meet purpose and need:

- Meet current and future mission capabilities for local, state, and federal agencies responsible for National defense and homeland security.

- Meet Department of Defense criteria for military value of a training area as stated in the *Federal Register* Volume (68 FR74221 C).
- Have sufficient area to safely accommodate current and future gunnery training for the following activities: realistic maneuver training, a small arms firing range, an impact area for inert training rounds and high explosive rounds, range safety fans, surface danger zones, land navigation courses, dismounted infantry tactic areas, drop zones, bivouac areas, and tracked/wheeled vehicle driving courses. This area for the MTARNG has been calculated to be approximately 19,000 acres (Appendix C).

ALTERNATIVE MEANS OF ACQUIRING THE LHTA

Several land acquisition alternatives such as purchase, condemnation, easements, and withdrawal of land within the LHTA are identified and evaluated in detail in Alternative 1 of this EIS. Additional alternatives considered but dismissed from further evaluation are addressed below.

Extend the existing right-of-way grant or permit by other non-withdrawal cooperative agreements between the BLM and MTARNG for use of the LHTA. The *Federal Lands Policy and Management Act* directs that public land be managed for multiple use and sustained yield. This law retained the concept that public lands were available for other federal agencies and departments to use through the administrative processes of withdrawal, rights-of-way and cooperative agreements. The MTARNG and BLM considered other means (non-withdrawal) of transferring jurisdiction to the MTARNG. These included extension of the existing right-of-way grant and developing a special use permit or other cooperative agreement. These alternatives were dismissed based on the rationale provided in BLM Instruction Memorandum No. 91-283 which is summarized below.

While Congress recognized that public land may be used by all federal agencies and departments, the types of authorization and authority of the Secretary of the Interior to grant these authorizations is restricted for some uses. Safety, security, and liability issues related to military munitions and special security situations can only be adequately dealt with when administrative jurisdiction of the lands is transferred from the Secretary of the Interior to the Military Service Secretary. Any form of authorization which does not transfer jurisdiction to the military service is not appropriate. This determination is derived from the *Engle Act* (72 Statute 27; 43U.S. Code 155 - 158). The primary regulatory guidance is found in 43 CFR Parts 2300, 2800, and 2900.

Safety is the primary reason for the proposed withdrawal. In the case of the LHTA, a land withdrawal is the BLM's only authorization option as set forth in BLM Instruction Memorandum No. 91-283 (BLM 2000). In this directive, BLM interprets the *Engle Act* and the *Federal Land Policy Management Act* positions on use of BLM-managed land for military purposes as follows: *any military use which is likely to have unexploded ordnance (UXO), chemical munitions, or other similar hazardous materials, or where long-term exclusive use of the lands is required for public safety or national security reasons, may be authorized for use only by public land withdrawal.* Portions of the LHTA have been used for live-fire weapons training

resulting in a risk of encountering UXO throughout the training area. Unexploded ordnance is present in the LHTA due to ordnance failing to detonate fully upon impact after being fired.

Based on BLM interpretations of requirements in the *Engle Act* and the *Federal Land Policy and Management Act*, use of rights-of-way or inter-agency cooperative agreement would not be appropriate means of permitting continued use of the LHTA for military training. These alternative means of transferring management of the LHTA from the BLM to the MTARNG to meet the purpose and need of the proposed action were dismissed based on the following alternative selection criteria:

- Adhere to BLM and Army policies regarding appropriate management and use of land potentially containing unexploded ordnance.

ALTERNATIVE WITHDRAWAL AREA BOUNDARIES

The agencies evaluated a number of configurations for the proposed LHTA boundary. Considerations for boundary locations were based on the following criteria (sorted in order of importance):

- Allow sufficient area to safely accommodate training activities
- Include federal land potentially contaminated with unexploded ordnance
- Provide access to surface water for military training exercises
- Limit the area of nonfederal land within the withdrawal area
- Minimize changes or disturbance to existing nonmilitary land use resulting from the withdrawal
- Maximize the area of riparian recreational federal land remaining under BLM jurisdiction
- Minimize the number of small, isolated parcels of federal land resulting from the withdrawal

The boundary is the same for all action alternatives and meets the above criteria. Other boundary alternatives were considered but dismissed. These included:

Maintain the same boundary as the existing LHTA right-of-way boundary. This alternative was dismissed because it does not include all federal land potentially contaminated with unexploded ordnance, created some small (less than one section in size) isolated parcels of federal land that could only be accessed by means of the withdrawal area or through private land, and adversely affected grazers by complicating the management of grazing allotments bisected by the withdrawal boundary. In addition, this alternative would not meet the following selection criteria:

- Adhere to BLM and Army policies regarding appropriate management and use of land potentially containing unexploded ordnance.
- Minimize changes or disturbance to existing nonmilitary land use resulting from the withdrawal.

Expand the existing right-of-way boundary to include all adjacent small (less than one section) parcels of federal land that would have been isolated from other BLM-managed land.

This alternative was dismissed because the inclusion of all adjacent isolated parcels resulted in the bisection of some grazing allotments by the withdrawal boundary. This could adversely affect grazers and the agencies by requiring two sets of management authority and requirements for one allotment. To avoid adverse impacts to grazers from multiple agency management for each allotment, the agencies established a single boundary for all action alternatives that minimized the number of grazing allotments that would fall within the withdrawal area and included all federal land potentially contaminated with unexploded ordnance. This alternative does not meet the following selection criteria:

- Minimize changes or disturbance to existing nonmilitary land use resulting from the withdrawal.

Limit the withdrawal area to the LHTA closure area and continue to permit military activities in the nonclosure area through a right-of-way grant or special use permit (these areas are shown in Figure 2-1). This alternative was considered as a means to reduce changes to, or disturbances of, existing non-military use of the LHTA. This was considered but dismissed because it does not meet the following selection criteria:

- Meet Department of Defense criteria for military value of a training area as stated in the *Federal Register* Volume (68 FR74221 C). In summary, that criteria is: an area suitable for maneuver by ground, naval or air forces throughout a diversity of climate and terrain area and staging areas for the use of the Armed Forces in homeland defense missions.
- Have sufficient area to safely accommodate current and future gunnery training for the following activities: realistic maneuver training, a small arms firing range, an impact area for inert training rounds and high explosive rounds, range safety fans, surface danger zones, land navigation courses, dismounted infantry tactic areas, drop zones, bivouac areas, and tracked/wheeled vehicle driving courses.
- Adhere to BLM and Army policies regarding appropriate management and use of land potentially containing unexploded ordnance.

Eliminate the area containing mining claims held by Graymont from the withdrawn area. This land would be retained by the BLM, or sold to the holder of the mining claims. Figure 2-4 shows the area containing Graymont claims in the LHTA. To minimize changes or disturbance to existing nonmilitary land use (in this case, a mining company's ability to exercise existing mining claims), the agencies considered reducing the withdrawal area to exclude land containing mine claims held by Graymont. This alternative arose from the potential conflict between land uses currently permitted in the LHTA by the BLM and how those uses are addressed in the *Engle Act* and *Federal Land Policy and Management Act*. These acts guide BLM with the following management requirements:

- The *Engle Act* states that authorizations for military activity must provide the proponent agency the minimum land area, uses, and rights necessary to accomplish the authorized activity in a safe and generally unimpeded manner, subject to valid existing rights.

- Under the *Federal Land Policy and Management Act*, the BLM's mission is the management of public land for multiple use and sustained yield.

This alternative was dismissed from further evaluation primarily because it would not allow sufficient area to safely accommodate existing training activities and therefore not meet the purpose and need of the proposed action. This alternative does not meet the following alternative selection criteria:

- Have sufficient area to safely accommodate current and future gunnery training.
- Adhere to BLM and Army policies regarding appropriate management and use of land potentially containing unexploded ordnance.

LAND STEWARDSHIP ALTERNATIVES

Both the military and the BLM have a stewardship responsibility of federal land in the LHTA. For authorizations other than a withdrawal, usually all stewardship responsibilities remain vested with the BLM, unless specifically given to the military. The military is responsible for conducting its training or testing within the terms and conditions of the authorization, preventing any undue impacts on the resources, and restoring any damaged lands and resources.

When jurisdiction over withdrawn lands is transferred to a military service secretary, the stewardship responsibilities for all non-mineral resources are also transferred, unless there is specific public land order, Executive Order, or statutory language that provides for management of some or all of the resources by another department or agency. The *Engle Act* is an example of a law which states all mineral resources on federal public lands or acquired lands are under the jurisdiction of the Secretary of the Interior and administered by the BLM, unless specifically stated otherwise in an overriding statute. Another statutory example where responsibility is not transferred is the Fish and Wildlife Services authority under the *Endangered Species Act*.

When developing alternatives for this EIS, the agencies considered the effectiveness and efficiencies of joint stewardship. The following items were considered for every alternative:

- BLM's ability to access the withdrawn lands
- The percentage of withdrawn lands versus acquired lands at the installation, for example, the lower the percentage of withdrawn lands compared to existing military reservation, the less reasonable it is to have BLM managing resources at the installation
- Availability of personnel such as, staffing levels, funding, and workload of both BLM and military installation in the area

- Special situations such as, grazing leases that straddle the withdrawal boundary
- Safety issues related to munitions and military training

Most stewardship options are explored in detail under Alternatives 1, 2, 3 and 4. However the following additional stewardship options were considered but dismissed from further evaluation:

BLM assumes management of all resources in both the closure and nonclosure area. All resources and resource uses with the exception of military use and land access would be managed under the *Federal Land Management Policy Act* by the BLM in accordance with the Butte Field Office Resource Management Plan. This alternative was considered but dismissed from further evaluation because the BLM would not have the ability to access portions of the withdrawn lands without military escort which would hinder resource management activities. Without access control, this alternative would not provide the BLM with sufficient management capabilities for effective natural and cultural resource protection at the LHTA. This alternative does not meet the following selection criteria:

- Enable agencies to effectively manage and protect resources at the LHTA.

Alternatives regarding management of grazing on the LHTA. During the scoping process, a stakeholder group interested specifically in how livestock grazing would be managed on the LHTA developed a "grazer-preferred" alternative for consideration by the agencies during the alternative development process. The grazer-preferred alternative contained 12 recommended agency actions and management practices, 4 of which will not be considered for further evaluation. The stakeholder group also recommended 8 additional agency actions to mitigate alternatives that may be proposed by the agencies but would not be preferred by the grazers. All of these recommendations appear in one or more of the alternatives considered for detailed analysis. A list of all grazer recommendations and where addressed in the EIS is provided in the Scoping Report (MTARNG 2005a). Stakeholder recommendations are shown in italics and followed by the selection criteria that precludes further study.

The National Guard will continue to use the existing firing range, and the proposed training area east of Old Woman's Grave Road will not be used by the National Guard/DoD/Corps of Engineers.

This option was considered but dismissed based on the following selection criteria:

- Meet Department of Defense criteria for military value of a training area as stated in the *Federal Register* Volume (68 FR74221 C). In summary, that criteria is an area suitable for maneuver by ground, naval or air forces throughout a diversity of climate, terrain, and staging areas for the use of the Armed Forces in homeland defense missions.
- Have sufficient area to safely accommodate current and future gunnery training for the following activities: realistic maneuver training, a small arms firing range, an impact area for inert training rounds and high explosive rounds, range safety fans, surface danger zones, land navigation courses, dismounted infantry tactic areas, drop zones, bivouac areas, and tracked/wheeled vehicle driving courses.

Allow 30 days of uninterrupted grazing in June or July for permits in the live fire area.

This option was considered but dismissed based on the following selection criteria:

- Permits only nonmilitary land use that is compatible with the MTARNG's ability to meet its training requirements.

The MTARNG training program at the LHTA is limited to a 5.5-month period requiring the use of the Live Fire Area for several weekends throughout the summer months. This precludes a guarantee of a 30-day no-use time during June and July.

2.7 SUMMARY OF ALTERNATIVES CONSIDERED IN DETAIL

Council on Environmental Quality regulations require a proponent to consider all reasonable alternatives that would fulfill its purpose and need for a proposed action. Reasonable alternatives include those which are practical or feasible from a technical and economic standpoint, support the underlying purpose of and need for the proposed action, and are ready for decision. An alternative is considered reasonable even if it is outside the legal jurisdiction of the MTARNG or BLM. Four alternatives are considered for detailed analysis in this EIS including:

Alternative 1 (initial proposed action), Alternative 2, Alternative 3 (preferred alternative), Alternative 4 (the no action alternative). A summary description of these alternatives is presented in Tables 2-8 and 2-9.

**Table 2-8
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement**

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Resource Management Activities	MTARNG would manage all resources in the LHTA except minerals and wildlife. (See Table 2-9)	Resources would be managed under FLPMA & the <i>Sikes act</i> depending on the location of the resource as described in Table 2-9.	Same as Alt 1	BLM would manage all resources in the LHTA except minerals and wildlife under FLPMA and the Field Office RMP (See Table 2-9)
Land Use Activities	MTARNG would manage all uses of the LHTA with the exception of water rights and county roads (See Table 2-9)	Land uses would be managed under FLPMA and the <i>Sikes Act</i> depending on the location of the resource (See Table 2-9)	Same as Alt 1	BLM would manage all land use in the LHTA except water rights and county roads under FLPMA and the Field Office RMP (See Table 2-9).
Agency Funding for Management of LHTA	With the exception of minerals, all management activities would be funded by the MTARNG. BLM would be funded for management of minerals only.	MTARNG would be funded by NGB for resource management in the closure area. BLM would be funded by DOI for nonclosure area resource management.	Same as Alt 1.	BLM would be funded by DOI to manage the LHTA.
Tenure of MTARNG Use of the LHTA	25 years after legislative approval. Extension of the withdrawal would trigger NEPA.	Same as Alt 1.	Same as Alt 1.	On or before March 26, 2014.
Land Use Restrictions on the LHTA	The Army has the authority to terminate or prohibit any use of the LHTA.	Existing legal non-military use of the LHTA could not be involuntarily terminated unless the use conflicts with safety precautions.	Same as Alt 2.	Same as Alt 2 before the ROW is terminated. After the ROW is terminated, any use consistent with the RMP is allowed. BLM would implement use restrictions for portions of the LHTA determined to be unsafe due to UXO.
Access	Access by the public, permit holders, or any agency is controlled by the MTARNG throughout the LHTA.	Same as Alt 1.	Same as Alt 1.	Access is controlled by BLM.

Table 2-8 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Closure Area Access	Access to closure area would require military escort.	Same as Alt 1.	Same as Alt 1.	Same as Alt 1.
Grazing (Laws & regulations)	Grazing would be managed by the MTARNG in accordance with the Sikes Act and under Army requirements.	Grazing throughout the LHTA would be managed by BLM in accordance with FLPMA and the Butte Field Office RMP.	Same as Alt 1 with the grazing exceptions described below.	Same as Alt 2.
Grazing allotments	Existing allotments would either remain as currently delineated or be eliminated entirely. No new allotments would be created.	All existing allotments in the LHTA would remain as currently permitted.	Same as Alt 2.	Same as Alt 2.
Grazing permittees	Possible termination of grazing permits after end of permit period. Possible permittee change based on highest bid.	All permits would remain the same.	Same as Alt 2.	Same as Alt 2.
Grazing permit conditions & process	Possible continuation of existing grazing permits. Possible issuance of grazing permits on a highest bid basis. Safety briefings for grazers would be required.	Permit conditions and renewals would be managed as they have in the past under FLPMA and the Butte Field Office RMP.	Same as Alt 2 except: Leases would extend for 20-years.	Same as Alt 2.
Safety briefings	Regularly scheduled UXO safety briefings would be required by MTARNG for grazers.	Safety briefings provided to grazers upon request.	Same as Alt 1.	Same as Alt 2 until post-ROW.
Grazing advisory group	A grazing-permittee advisory group for the purpose of coordinating land use with military activities and advising on permitting conditions would be sponsored by the MTARNG.	No advisory group limited specifically to grazing stakeholders would be sponsored.	Same as Alt 1.	Same as Alt 2.
Fencing high explosive active impact area	Yes, if determined to be needed for site safety.	Not unless requested by permittees.	Same as Alt 2.	No.

Table 2-8 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Wildlife Habitat	Managed by the MTARNG in accordance with the <i>INRMP</i> .	Managed by the BLM in the nonclosure area and by the MTARNG in the closure area (Table 2-9).	Same as Alt 1.	Managed by the BLM (Table 2-9).
MTARNG meetings with FWP	Yes.	Yes.	Yes.	Yes.
Mining (Laws & regulations)	All mine operations and mine-claims would be managed by the BLM under the <i>General Mining Law</i> and <i>FLPMA</i> .	Same as Alt 1.	Same as Alt 1.	Same as Alt 1.
Mining permits	All existing operation permits could be acquired. No new Mine Operating Permits would be allowed.	Existing operating permits would remain in effect. Future mine or mine expansion permits issued by the DEQ and BLM require review and approval based on access to training areas and for safe access only by MTARNG.	Same as Alt 2.	Existing operating permits and all claims would remain in effect. Future mining and mine expansion permits would be issued by the DEQ and BLM.
Mining claims	All or some of the following mining claims could be acquired: all mining permits and claims, or claims not currently under an operating permit, or only those claims that could impact the military mission.	Mining rights on claims that could impact the military mission could be acquired. Those claims would be limited to those shown in red on Figures 2-5a and 2-5b and identified in Appendix E.	Same as Alt 2.	Existing claims would remain in effect. Future claims would be processed by the BLM in accordance with the <i>RMP</i> .
Cultural Resources	Managed under the MTARNG <i>ICRMP</i> and the <i>Sikes Act</i> .	Managed by the BLM and the MTARNG (Table 2-9).	Same as Alt 1.	Managed by the BLM in accordance with <i>FLPMA</i> .
Rights of Way	Would be evaluated on an annual basis by the MTARNG for conflict with military mission and could be terminated.	Existing rights-of-way would remain in effect.	Same as Alt 2.	Same as Alt 2.
Rights of way permit conditions	Would be permitted by the MTARNG, permit conditions could change.	Existing permit conditions would remain in effect.	Same as Alt 1.	Same as Alt 2.

Table 2-8 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Rights-of-way fees	All fees would be eliminated or paid to the Army Corps of Engineers.	All fees in the non-closure area would be paid to the BLM. Fees in the closure area would be paid to Army Corps of Engineers.	Same as Alt 1.	All fees would be paid to the BLM.
Inholdings	All private property within the LHTA could be acquired through outgranting, purchase or condemnation.	Private property owners having land within the LHTA would be given the options of selling their property, or selling easements for use by the MTARNG.	Same as Alt 2.	Private property within the LHTA would not be considered for acquisition or use restriction by the federal government.
Boundaries	LHTA boundaries are adjusted to exclude some federal land used for grazing, eliminate National Register of Historic Places sites, exclude land used for recreation near the Missouri River, and to exclude Indian Creek.	Same as Alt 1.	Same as Alt 1.	Same as Alt 1 until post-ROW. After ROW, LHTA boundaries would be eliminated and replaced with UXO risk level boundaries and access requirements appropriate to the risk level.
UXO-related activities	UXO clearance continues to be implemented by the MTARNG.	Same as Alt 1.	Same as Alt 1.	Same as Alt 1 until post-ROW. UXO clearance would be implemented by the Army or other federal or state agency.
Expected rate of UXO clearance	25 acres per year depending on terrain and funding.	Same as Alt 1.	Same as Alt 1.	Same as Alt 1 until post-ROW. After ROW, unknown rate of clearance. Funding priority for UXO surface sweep would be based on nationwide priorities.
UXO clearance priorities	Clearance priorities would be based on Graymont mine expansion plans.	Same as Alt 1.	Same as Alt 1.	Clearance priorities would be set by the BLM.
Recreation	388 additional acres would open to public access if nonclosure areas remained open.	About 388 acres would change from closed to public access to open to public access.	Same as Alt 1.	Closure area would remain the same.

Table 2-8 (Continued)
Summary of Alternatives
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)
Long-term use of recreational land	The status of the closure area (about 8,069 acres) would change from temporarily closed to permanently closed.	Same as Alt 1.	Same as Alt 1.	Closure area status would remain the same.
Compensation to County for Loss of Tax Revenue	No Compensation	One time payment of \$400,000	One time payment of \$1,000,000	No loss of PILT
BLM PILT	0 percent of current rate	60 percent of current rate	Same as Alt 1	Full amount

Notes:

Alt	Alternative
BLM	Bureau of Land Management
DEQ	Department of Environmental Quality
DOI	Department of the Interior
FLPMA	Federal Land Policy and Management Act
FVP	Montana Department of Fish, Wildlife, and Parks
ICRMP	Integrated Cultural Resources Management Plan
INRMP	MTARNG Integrated Natural Resource Management Plan
LHTA	Limestone Hills Training Area
MTARNG	Montana Army National Guard
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
PILT	Payment in Lieu of Taxes
RMP	BLM Butte Field Office Resource Management Plan
ROW	LHTA right-of-way grant
UXO	Unexploded ordnance

Table 2-9
Alternative Summary – Agency Management Responsibilities
Limestone Hills Training Area Legislative Environmental Impact Statement

Activity Land Use Management Responsibilities	Alternative 1	Alternative 2		Alternative 3 (Preferred Alternative)	Alternative 4 (No Action)	
		Closure Area	Non-closure Area		Under ROW	Post ROW
Military Land Use	MTARNG	MTARNG	MTARNG	MTARNG	MTARNG	Not Applicable
Access	MTARNG	MTARNG	MTARNG	MTARNG	BLM	BLM
Recreation	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Real Estate	MTARNG	MTARNG	MTARNG	MTARNG	BLM	BLM
Rights-of-Way	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Water Rights	DNRC	DNRC	DNRC	DNRC	DNRC	DNRC
Mining	BLM	BLM	BLM	BLM	BLM	BLM
Weed Control	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Grazing	MTARNG	BLM	BLM	MTARNG	BLM	BLM
Fire Management	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Timber Management	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Wildlife Habitat	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Vegetation Removal for UXO Clearance	MTARNG	MTARNG	MTARNG	MTARNG	MTARNG	Army or other federal or state agency
Special Status Species	FWS	FWS	FWS	FWS	FWS	FWS
Minerals	BLM	BLM	BLM	BLM	BLM	BLM
Water	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Air Quality	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Wildlife	FWP/MTARNG	FWP/MTARNG	FWP/BLM	FWP/MTARNG	FWP/BLM	FWP/BLM
Vegetation	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Cultural Resources	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
Non-county Road Maintenance	MTARNG	MTARNG	BLM	MTARNG	BLM	BLM
County Road Maintenance	Broadwater County	Not Applicable	Broadwater County	Broadwater County	Broadwater County	Broadwater County
Waste Management	MTARNG	MTARNG	BLM	MTARNG	MTARNG	Army or other federal or state agency
MTARNG Facilities	MTARNG	MTARNG	MTARNG	MTARNG	MTARNG	BLM

Table 2-9 (Continued)
Alternative Summary – Agency Management Responsibilities
Limestone Hills Training Area Legislative Environmental Impact Statement

Notes:

BLM	U.S. Bureau of Land Management
Army	U.S. Department of Army
DNRC	Montana Department of Natural Resources and Conservation
EOD	Explosive Ordnance Disposal
FWS	U.S. Fish and Wildlife Service
FWP	Montana Fish, Wildlife and Parks
LHTA	Limestone Hills Training Area
MTARNG	Montana Army National Guard
PILT	Payments (to Broadwater County) In Lieu of Taxes
ROW	Refers to the Right of Way granted by the BLM to the MTARNG for military training activities (Appendix A)
UXO	Unexploded Ordinance

2.8 OTHER PLANNED ACTIONS IN THE REGION OF INFLUENCE

This section provides a description of reasonably foreseeable future actions that could contribute to the incremental impact of one or more alternatives considered in this EIS. Information regarding reasonably foreseeable actions was obtained from the following sources:

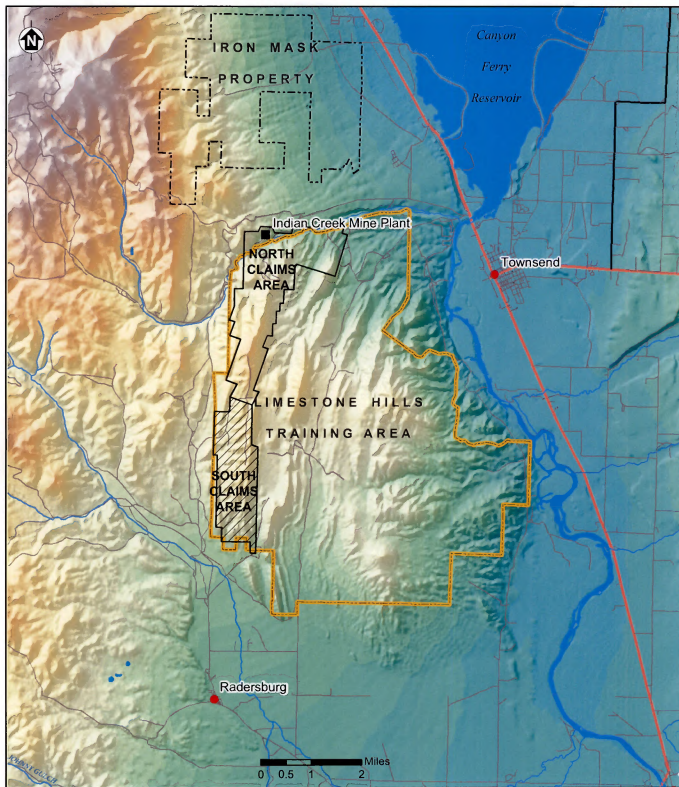
- Stakeholder surveys, interviews, and public meetings
- Stakeholder discussions
- Social impact and land use assessments
- Geographic information systems analysis
- State, federal and local government planning records
- Resource use permit applications
- MTARNG and BLM proposed activities

2.8.1 IRON MASK PROPERTY ACQUISITION

In July of 2007, the BLM finalized the acquisition of approximately 5,565 acres of range and mountainous land extending from the railroad tracks west of Highway 287 near the Silos on the southern end of Canyon Ferry Reservoir, to the top of the ridge, just south of the White Horse drainage (Figure 2-6). The Iron Mask property was named for a nearby defunct mine and operated as a working ranch. The BLM Butte Field Office has completed an environmental assessment which considered potential impacts of the acquisition.

The Iron Mask acreage consists of sloping terrain covered with sagebrush, juniper and grasslands to steeper mountainsides dotted with a few small stands of lodgepole pine and Douglas-fir. The property is bordered by public lands managed by the U.S. Forest Service and BLM, and is one of the largest intact landscapes free of development on the east flank of the Elkhorns. As such, the property is prime wildlife habitat serving as critical winter range for elk and year-round habitat for bighorn sheep and pronghorn antelope.

The parcel has been a central focus of the Elkhorn Conservation Initiative, which was launched in 2003 by the Elk Foundation, U.S. Forest Service, BLM and Montana Department of Fish, Wildlife and Parks. The goal of the initiative is to bring communities, landowners and hunters together in a 5-year effort to protect and enhance at least 20,000 acres of wildlife habitat in the Elkhorn Range.



Legend

- Mine
- Town
- ▭ Proposed LHTA Boundary
- ▨ Mine Claim Expansion
- - - Iron Mask Property
- Water



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

**FIGURE 2-6
OTHER PLANNED ACTIONS**

2.8.2 BLM BUTTE FIELD OFFICE RESOURCE MANAGEMENT PLAN REVISION

The BLM Butte Field Office is in the process of developing a new resource management plan for an eight-county area that includes the LHTA. The *Resource Management Plan* will be written in accordance with the *Federal Lands Policy and Management Act* (43 USC 1701 et. seq.) and BLM's *Land Use Planning Handbook*; H-1610-1. The *Butte Field Office Resource Management Plan* will provide a single, comprehensive tool that will guide management of public land administered by the Butte Field Office over the next 15 to 20 years.

Current management of the LHTA area is guided by the 1984 *Headwaters Resource Management Plan* which has been formally amended on five occasions. Several new laws, regulations, and policies have created additional considerations that affect management of public land since the 1984 Plan was approved. Field office boundaries have also changed during this time period. As a result, some decisions in existing management plans are no longer valid, or have been superseded by requirements that did not exist when the plans were prepared. Coupled with new issues and concerns, increasing demands on certain resources in the planning area, and adjusted planning area boundaries, these changes drive the need for an inclusive, comprehensive plan that provides clear direction to both BLM and the public. The plan will include management prescriptions for resource-uses of the LHTA, such as grazing management, recreation, road use, and mineral extraction. The plan will also integrate resource protection goals with land-use practices to ensure that BLM land is managed under the principles of multiple use and sustained yield.

A draft of the revised *Butte Field Office Resource Management Plan* was released for public comment. The final plan is expected to be approved in early 2009.

2.8.3 GRAYMONT MINE EXPANSION AND EXPLORATION ACTIVITIES

The Indian Creek Mine has been in continuous operation since early 1981, when Continental Lime, Inc. (now Graymont) began mining the Mission Canyon Limestone to produce both lime and hydrated lime. The Indian Creek mine is developed on both BLM and private land, largely within, but also in part adjacent to the LHTA. The existing mine permit area encompasses an area of 1,735 acres, of which approximately 757 acres are permitted for surface disturbance. About 300 acres are currently disturbed. Graymont has submitted an Operating Plan for approval to the Montana Department of Environmental Quality and the BLM as a cooperating agency to expand its mine permit area in the LHTA. An EIS is currently underway to evaluate the potential impacts of that proposal.

Graymont (or their predecessor) have staked a number of patented and unpatented mining claims located on BLM administered federal-lands within the LHTA. Mining claims are generally staked as parallelograms, 1,500 feet by 600 feet in size and enclose approximately 20 acres (Figures 2-5a and 2-5b). Under rights granted by the General Mining Law, staking of a claim grants the claimant the right to explore for, develop, and purchase the land. The location of a mining claim grants the claimant present and exclusive possession of the right to explore, develop and mine the land. Mining claims are

real property rights that can be bought, sold, or traded. Pursuit of these rights must still meet permitting requirements such as restrictions or guidelines presented in the approved operating permit as well as other state and federal laws, including environmental restrictions and guidelines contained in relevant state and federal regulations. Finally, in the case of the Graymont Property, specifically safety restrictions and requirements must be met such as those presented in the MOA of 2005 among the BLM, MTARNG, and Graymont.

At the northern end of the LHTA, Graymont has 161 unpatented placer claims located over both limestone and dolomite outcrops. In addition, Graymont has 23 unpatented, and four patented mill site claims located in this northern portion of the LHTA. Mill site claims are typically five acres in size (usually square in plan view) and are staked in order to provide construction sites for plant and other physical facilities required by mining. Mill site claims are typically not mineralized.

Other unpatented lode mining claim holdings staked by Graymont are: an isolated block of 20 lode mining claims located in the north-central portion of the LHTA, a second set of 102 lode mining claims to the west and southwest of the first block within and adjacent to the mine permit area, and a third area south of the existing mine permit area that contains an additional 62 lode mining claims. These latter claims were recently staked (since 2003) for exploration purposes and occur along a north south-trending set of limestone ridges.

Graymont has proposed, permitted, and executed exploration activities including drilling on the claims located to the south of the existing Mine Permit Area. Graymont has identified a limestone resource of about 55 million tons in this area that they would hope to upgrade to a mineable reserve by their ongoing exploration activities. These resources are included in a portion of the area covered by the recently proposed mine expansion discussed above.

2.8.4 PLANNED LOWER INDIAN CREEK STREAM RESTORATION

BLM has implemented a second phase of the Lower Indian Creek Stream Restoration Project by conducting a reclamation characterization and screening-level engineering evaluation/cost analysis for the lowest three miles of Indian Creek, from the end of the reconstructed section at the northern boundary of the LHTA right-of-way, to the creek's confluence with the Missouri River. Placer dredge mining has extensively impacted nearly all of this section of Indian Creek. The BLM has developed reclamation alternatives and plans to begin reclamation some time after 2007 depending on the availability of funds.

CHAPTER 3

AFFECTED ENVIRONMENT

This chapter describes current environmental conditions of the areas that would be affected if the proposed action or alternatives were implemented. Only environmental resources and resource parameters that could be affected by the action or are of public concern are described and analyzed for environmental consequences. Resources described and analyzed in this chapter are: land use, air quality (including noise), geology, soil, water, vegetation (including wetlands), wildlife, cultural resources, socioeconomic resources, and infrastructure (including transportation, safety and hazardous materials).

This Legislative Environmental Impact Statement (EIS) also considers resources identified by the U.S. Department of the Interior, Bureau of Land Management (BLM) as "Critical Elements of the Human Environment." Of the 14 critical elements, the following 9 are described in this chapter: air quality (Section 3.2), water quality (Section 3.5), wetlands/riparian zones (Section 3.6), noxious weeds and non-native invasives (Section 3.6.4), threatened or endangered species (Sections 3.6.3 and 3.7.3), cultural resources (Section 3.8), Native American religious concerns (addressed under cultural resources), environmental justice (Section 3.9), and hazardous or solid wastes (Sections 3.10.5 and 3.10.6). Of the remaining 5 critical elements; there are currently no designated areas of critical environmental concern, wild and scenic rivers, floodplains and prime or unique farmlands, or wilderness areas in the proposed withdrawal area and therefore these elements are not addressed.

The level of detail for each resource area in this EIS is commensurate with the level of importance of and concern for that resource and the issues it presents. Major issues of concern raised by the public and responsible agencies are listed in Section 1.5. The primary issues are potential impacts to land use (grazing, land ownership, and recreation), mineral resources, noise, wildlife habitat, the local economy (with respect to the fate of the existing limestone mine), and safety (due to unexploded ordnance). The level of detail assigned to those resources reflects their importance in this environmental analysis.

3.1 LOCATION AND LAND USE

The Limestone Hills Training Area (LHTA) is located about 23 miles south of Helena, Montana and about 2 miles southwest of Townsend on the west side of the Townsend Valley, in Broadwater County, Montana (Figure 3-1). Its eastern boundary lies just to the west of the Missouri River, and it is roughly bounded by Indian Creek on the north, Crow Creek on the south and the Elkhorn Mountains on the west (Figure 3-2). The area varies in elevation from about 3,800 feet along the Missouri River to about 5,900 feet along some ridges of the Limestone Hills.

The LHTA is composed of approximately 18,715 acres of federal land that encloses 2,666 additional acres of state and private land for a total of about 21,381 acres within the outer withdrawal boundary. Figure 1-2 shows the existing boundary and general land ownership within the LHTA. The LHTA is located within most of Township 6 North, Range 1 East (T6N, R1E); and portions of T7N, R1E; T6N, R2E; and T5N, R1W.

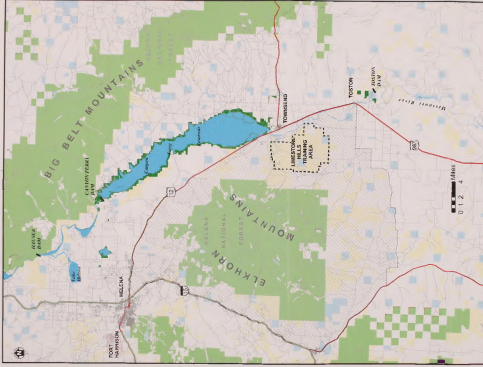
This section provides a description of land management practices currently in place and the existing land use of the LHTA. The land use and land management study area is the area within the existing LHTA boundary and adjacent land within 1/2 mile outside of the LHTA boundary. This study area region is shown on Figure 3-3.

3.1.1 LAND USE MANAGEMENT PRACTICES

Because the LHTA is composed of federal, state and privately-owned land and is used for multiple purposes, land within the LHTA is managed in accordance with policies and practices established under several federal, state and local government agencies. These management practices as they are currently applied to the LHTA are described in this subsection.

LAND MANAGEMENT OF THE LHTA

Management of federal land within the LHTA falls under the jurisdiction of the Secretary of the Interior, and is administered by the BLM consistent with the *Federal Lands Policy Management Act* and guidance issued by the BLM. The BLM is the responsible agency for management of natural resources and uses of federal land within the LHTA. The BLM's overriding mission with regard to the LHTA is the management of federal public lands for multiple use and sustained yield. The objective of the BLM at the LHTA has been to accommodate its use by another federal agency (the Department of the Army) with minimum disruption to existing land users and minimal impacts on the environment. Because the Montana Army National Guard (MTARNG) uses the LHTA for about 6.5 months every year, the BLM delegates some management responsibilities to the MTARNG.



UNITED STATES GEOLOGICAL SURVEY
BULLETIN 1464
LAND-USE AND LAND-COVER DATA

**FIGURE 14
REGIONAL LAND
MANAGEMENT**



FIGURE 3-3
LHQA LAND OWNERSHIP
RIGHTS-OF-WAY
AND EASEMENTS

Facilities and equipment within the LIFTA

- Challenges
- ▲ Trends
- ==== Road Right-of-Way
- Transportation Lanes
- ===== Railroad
- ++++ Local Petroleum Pipeline

List of Questionnaire attitude and self-report variables is given in Table 1.

- ☐ Female
☐ Spill Supervisor
☐ Business Unit Manager
☐ Other

□ **Author of this manuscript is Maria de la**

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Relevant Land Management Plans and Cooperative Agreements

This subsection summarizes the plans and agreements that wholly or partially address management of the LHTA. Two federal statutes: the *Federal Lands Policy and Management Act* and the *Sikes Act*, direct management policy of the LHTA and are described at the end of this subsection.

The *Headwaters Resource Management Plan* was prepared by the BLM in 1984 to guide management of a nine-county area in Montana that included the LHTA (BLM 1984b). The *Headwaters Resource Management Plan* was an issue-driven planning document such that only those aspects of management direction that were at issue in 1983, or expected to be at issue in the future, were addressed in the plan. These issues are: oil and gas leasing and development, grazing allotment and riparian habitat management, wilderness study recommendations, forest management, land ownership adjustments, mineral exploration and development, motorcycle use areas, motorized vehicle access, utility and transportation corridors, coal leasing in the Great Falls coal field, and special designations. The *Headwaters Resource Management Plan* divides the land into 36 management units. The LHTA is Management Unit 31. Table 3-1 provides a summary description of management priorities for the LHTA as Management Unit 31 in the *Headwaters Resource Management Plan*.

TABLE 3-1 U.S. BUREAU OF LAND MANAGEMENT HEADWATERS RESOURCE MANAGEMENT PLAN SUMMARY OF MANAGEMENT GUIDELINES FOR MANAGEMENT UNIT 31	
Plan Issue Area	Management Guidelines
Oil and Gas Leasing and Development	Available with stipulations
Wilderness Recommendations	No potential wilderness identified
Forest Management	Low priority because forested area contains safety hazards
Land Ownership Adjustments	Retain federal lands under BLM jurisdiction
Mineral Exploration and Development	Available
Motorcycle Use Areas	Closed except on existing roads
Motorized Vehicle Access	Managed in accordance with <i>Elkhorn Travel Management Plan</i> : allowed on existing roads in the nonclosure area east of Old Woman's Grave Road. No off-road traffic.
Utility Corridors	Avoid
Coal Leasing	No potential coal fields identified
Special Designations	No special designations identified
Wind Energy	Guidelines described in Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States, June 2005

The 1984 *Headwaters Resource Management Plan* has been amended five times to accommodate changes in BLM management policy, law and regulatory requirements, and new issues of concern. A list of amendments and plans relevant to the LHTA that modify the 1984 *Headwaters Resource Management Plan* is provided in Table 3-2. The BLM is currently in the process of developing a new resource management plan that may set new management priorities and policies for the LHTA.

TABLE 3-2 PLANS AND OTHER AMENDMENTS TO THE HEADWATERS RESOURCE MANAGEMENT PLAN RELEVANT TO THE LIMESTONE HILLS TRAINING AREA	
Amendment/Plan And Decision Date	Summary Description
Vegetation Treatment on BLM Lands in Thirteen Western States. 1991.	Describes BLM's integrated treatment program for undesirable plants and noxious weeds on public lands in Montana and the Dakotas. Sets priorities for treatment and prevention, herbicides approved for use, herbicides rejected, and selection criteria for treatment methods.
<i>Elkhorns Travel Management Plan/Amendment</i> . 1995	This travel plan was completed jointly with the Forest Service.
Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota and South Dakota. 1997	The development and application of these standards and guidelines are to achieve the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1): (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets state standards; and (4) habitat for special status species is protected.
<i>Off-Highway Vehicle Plan Amendment</i> for Montana, North Dakota, and Portions of South Dakota. 2003	Generally eliminates cross-country off-highway vehicle travel (except in Intensive Use Areas) throughout Montana/Dakotas, including the LHTA.
<i>Statewide Fire Management Plan and Amendment</i> . 2003	Amends all BLM resource management plans in Montana regarding fuels management and wildland fire suppression. Designates categories where fire is desirable or not for the various fire management zones. Fire is undesirable in the LHTA.

Notes:

BLM U.S. Bureau of Land Management
 LHTA Limestone Hills Training Area
 CFR Code of Federal Regulations

A *Memorandum of Understanding* between the Montana Department of Fish, Wildlife and Parks, the BLM Butte Field Office, and the Beaverhead-Deerlodge National Forest regarding the Elkhorns cooperative management area was signed in 1992 and updated in 2000. This agreement facilitates management of the Elkhorns cooperative management area (which includes the LHTA) as an ecological unit across political boundaries for the purpose of sustaining ecological systems, potential biological diversity, and ecosystem processes. Under this agreement, valid existing rights, such as the right-of-way issued by the BLM to the MTARNG and the Graymont mine permit issued by the BLM and Montana Department of Environmental Quality, are recognized.

The BLM granted **right-of-way** to the MTARNG in 1984 to conduct specified military training exercises and to construct and maintain improvements in the Limestone Hills under specified terms and conditions. The right-of-way decision document stipulates to the MTARNG, many responsibilities, including cultural resource protection, weed control, and fire suppression for areas affected by the presence of the MTARNG. The document requires the MTARNG to comply with all applicable regulations contained in 43 Code of Federal Regulations 2800 (regulations governing rights-of-way on public lands pursuant the *Federal Land Policy and Management Act*). The right-of-way is provided in Appendix A and will expire March 26, 2014 unless it is relinquished, abandoned, or terminated earlier.

The **MTARNG Integrated Natural Resources Management Plan for the LHTA**, prepared in 2001, is the plan of action for the conservation of natural resources in the LHTA. The five-year plan is designed to integrate the military mission with the conservation and rehabilitation of natural resources, to maintain a sustainable multipurpose use of the resources, to continue public access to the LHTA, and to assure human health and safety. This plan was developed in accordance with the *Sikes Act* and in cooperation with the U.S. Fish and Wildlife Service, the Montana Department of Fish, Wildlife and Parks, and the BLM. The plan outlines implementation procedures for land management policies specific to the LHTA, including practices for management of grazing, mining, habitat protection, wetlands, soils, pests, and fire management. The plan identifies staffing needs, recommends training programs, and describes agency responsibilities. The Plan is scheduled for updating in 2007.

The **MTARNG Cultural Resources Management Plan** was prepared in 2002 (MTARNG 2002b). The plan includes a set of standard operating procedures covering (1) new construction and other ground-disturbing activities, (2) the inadvertent discovery of cultural resource properties, (3) the future discovery of human remains, (4) curation of archaeological materials, and (5) tribal consultation designed to meet the MTARNG's cultural resource responsibilities for all of its facilities within the state. With specific regard to the LHTA, the plan requires coordination with the BLM regarding potential cultural resource undertakings, and allows the BLM to conduct compliance-related inventories of areas of potential effect associated with specific Guard-sponsored activities. The plan also requires an assessment of the adequacy of the 1979 cultural resource inventory of the Limestone Hills Training Area (Davis *et al.* 1980), with special reference to historical mining resources, and mandates resolution of National Register eligibility of all previously recorded cultural resource properties within the training site for which a consensus determination of eligibility has not been reached.

Overriding Legal Framework for Land Management of the LHTA

The **Federal Lands Policy Management Act** was enacted by Congress in 1976. It is the primary legislation guiding the BLM in its responsibility to manage public lands and resources under the principles of multiple use and sustained yield. The Act gives environmental and recreation interests legal equality with commodity uses such as mining, grazing and timber. Decisions about the use of specific public land areas, such as the LHTA, are based on land use plans and EISs prepared with public participation. The BLM has developed extensive guidance protocol for developing land use management plans under the *Federal Lands Policy and Management Act*. These describe policies and management practices to address (1) management and protection of air, water, vegetation, wildlife, fish, cultural, visual, social, and economic resources, weed control and fire mitigation; and (2) provisions for management of resource use such as roads, recreation, grazing, minerals, abandoned mine lands, waste, and hazardous materials management. The BLM Butte Field Office is in the process of developing a new resource management plan that will include the LHTA.

The **Sikes Act Improvement Act** of 1997 instructs federal fish and wildlife agencies to promulgate regulations that would improve management of natural resources at Department of Defense installations. The Act requires military installations, such as the LHTA, to prepare and implement a long term planning document (an integrated natural resource management plan) designed to guide the installation in the management of natural resources to support the installation mission, while protecting and enhancing natural resources for multiple uses, sustainable yield, and biological integrity. In addition, the Act requires that the natural resource management plan become a plan of action for funding and implementing natural resources projects. Resource management plan development under the *Sikes Act* is also supported by extensive guidance issued by all branches of the Department of Defense.

Responsible Agencies

The **Montana BLM Butte Field Office** is responsible for overseeing the management of federal land within the LHTA. The Butte Field Office manages approximately 300,000 acres of public surface land and about 656,000 acres of federal mineral estate distributed throughout an eight-county area in south-central Montana. As of December 2005, the Butte Field Office has personnel that specialize in the following resource management disciplines: hydrology, wildlife and vegetation, cultural resources, geology and minerals, soil science, hazardous materials, grazing, timber management, weed control, recreation, abandoned mines, and fire mitigation. Butte Field Office staff is supported by the Montana BLM state office which provides additional assistance with resource management planning, social and economic resources, and cultural resources, when needed.

The **MTARNG Environmental Office**, located at Fort Harrison in Helena, Montana, is responsible for ensuring that land management practices employed on the LHTA by the MTARNG are conducted in accordance with BLM requirements as stipulated in the right-of-way decision document. The Environmental Office oversees resource management at 26 training facilities throughout Montana. Twenty-four of these facilities are armories that require minimal natural resource management on the part of the Environmental Office. Two facilities (Fort Harrison and the LHTA) consist of about 27,400 acres of open land and MTARNG facilities. The Environmental Office is staffed with six specialists in the fields of resource management planning and evaluation, hazardous materials and waste management, and unexploded ordnance management. The MTARNG Environmental Office staff is supported by resource specialists from National Guard Bureau in Washington, DC, and contracted resource specialists, as needed.

The **State of Montana** manages different aspects of the LHTA through the offices of three agencies: the Department of Natural Resources and Conservation; the Department of Fish, Wildlife and Parks; and the Department of Environmental Quality. The State of Montana owns about 1,279 acres within the LHTA in Sections 16 and 36 in Township 6 North, Range 1 East (Figure 1-2). The Montana Department of Natural Resources and Conservation is responsible for managing the use and resource protection of the state land, and for any decisions or conditions regarding land disposal. Currently, the land is used primarily for grazing, recreation, and military training. The Montana Department of Fish, Wildlife and Parks manages wildlife throughout the LHTA by establishing seasons, limits and other conditions for hunting game and working with other land managers to improve wildlife habitat (Section 3.6 describes wildlife management). The Montana Department of Environmental Quality manages natural resources affected by Graymont activities by means of conditions established in the mine permit (Section 3.3 provides a description of permitted mine activities).

Broadwater County maintains three county roads, Old Woman's Grave Road, River Road, and Indian Creek Road, on the LHTA. In addition, the BLM currently provides the county with payment for LHTA federal land managed by the BLM in lieu of taxes. The county also has jurisdiction over private property development within the LHTA.

3.1.2 MILITARY USE OF THE LHTA

The current right-of-way grant (Appendix A) between the BLM and the MTARNG allows the following military practices on the LHTA:

- The firing of armored tanks, mortars, and howitzers and their support weapons, including live ammunition
- Helicopter training and firing of all associated weapons with live ammunition
- Infantry maneuvers and firing exercises, including small arms, grenades, and mortars
- Training of various support groups, usually involving a bivouac, perimeter defense, and small arms firing
- Equipment maintenance and testing exercises
- Construction and maintenance of improvements – all existing improvements and all planned improvements approved by past permits are authorized
- Use of the community gravel pit as part of MTARNG's range maintenance; large withdrawals of material from the pit must be confirmed with the BLM

The primary military users of the LHTA are the MTARNG mechanized infantry, aviation, and cavalry units (Table 3-3). In addition, the LHTA is used occasionally by a variety of organizations that schedule use through MTARNG personnel at the Fort Harrison Training Center. The LHTA has been used for training by: 19th & 20th Special Forces Groups, 1st Special Forces Group, 5th Special Forces Group, 10th Special Forces Group, U.S. Navy Seal Team 5, 370th Quartermaster Battalion, 4225th Field Medical Hospital, 889th Supply and Services Battalion, 83rd Military Support Detachment, 747th Postal Support Company, 741st & 341st Security Police Squadrons, 2nd Battalion Force Marine Reconnaissance Company, 341st Civil Engineer Squadron, 341st Services Flight, University of Montana & Montana State University Reserve Officer Training Corps, Idaho State University Reserve Officer Training Corps, Bureau of Alcohol, Tobacco and Firearms, and Civil Air Patrol (Flaherty 2004).

The LHTA is large enough to provide maneuverable space to train the infantry, armor, and artillery units listed above. Training area size requirements are established in Department of the Army Training Circular No. 25-1 "Training Land." This circular applies the following criteria to determine appropriate size of training area: unit mission, size, tasks, and frequency of use (Army 2004c). The MTARNG Training Center reviews all training requests from non-MTARNG units or any entity that wishes to use the LHTA for military training. Military use requests are granted if requested activities are in compliance with Army regulations (such as Training Circular 25-1 that establishes appropriate maneuver space for any proposed use) and conform to conditions established under the withdrawal legislation. Land area need calculations based on Training Circular 25-1 are provided in Appendix C.

**TABLE 3-3
PRIMARY MILITARY UNITS AND MISSIONS TRAINING
AT THE LIMESTONE HILLS TRAINING AREA**

Unit^a	Mission
95 th Troop Command	The command and control entity for all MTARNG units in Montana.
1049th Engineer Platoon	A firefighting and prevention platoon.
Troop E 163rd Cavalry	An opposing force unit assigned to the National Training Center at Ft. Irwin California, they fight using Soviet style tactics to help train forces in how to fight. They are equipped with tanks, Bradley fighting vehicles, mortars and other standard small arms.
143rd Military Police Detachment	A detachment of military police with a law and order function.
1-163rd Infantry Battalion	A unit designed to close with and destroy the enemy using shock effect, firepower and maneuver. Equipped with Bradley infantry fighting vehicles and mortars.
1-189th Aviation Battalion	A composite unit of several different aircraft types, generally cargo helicopters, equipped with three different types of aircraft armed with machine guns for self-defense.
1-190th Field Artillery Battalion	A unit designed to destroy the enemy through massing of heavy artillery concentrations. They do not currently fire their primary weapon system in Montana.
495th Transportation Battalion	A headquarters element that oversees and dispatches multiple convoy and supply units.
443 rd Quartermaster Company, Petroleum Support	A petroleum supply unit that establishes fuel farms and pipelines.
631 st Chemical Company (Recon and Decon)	A chemical company designed to reconnoiter areas of contamination and assist other units with decontamination of their equipment and personnel.
639th Quartermaster Company, General Supply	A general supply company that warehouses, transports, and distributes supplies for other units.
3669th Maintenance Company	A mechanical and vehicular maintenance and troubleshooting company.
208 th Regiment (MT Regional Training Institute)	A regiment that trains many different specialties to include tanks, Bradley fighting vehicles, and mortars.
410, 411, 412, 413, 414, and 415 th Ground Liaison Teams	Small teams that specialize in ground to air communications to call in Air Force or Navy air support for ground troops.
Air National Guard, 219th RED HORSE	An engineering squadron of construction specialists and security personnel. Armed with small arms and machine guns. "RED HORSE" stands for Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer.
Air National Guard, 120th Fighter Wing.	A security detachment that provides for protection of air fields
Mission for Detachment 2, 111 th Press Camp	Provide broadcast journalists, combat cameraman and media escort services to units from division to battalion size.
Mission for Detachment 1, 1022nd Medical Company	Provide air evaluation and immediate life-saving for forward-deployed soldiers on the battlefield.

- a All units are MTARNG unless otherwise noted; units in **bold** have been deployed, or are currently deployed to Iraq or Afghanistan.



**Helicopter and Bradley Vehicles Readied for Training;
Graymont Limestone Mine in Background**



Briefing Tent with Observation Tower in Background

ANNUAL USE PERIOD

The LHTA is used for military exercises approximately 140 days per year out of a 6.5-month training period beginning after the second Monday in April, and ending November 30 each year. The LHTA is not used for military training exercises during the 5.5-month period that begins the last day of hunting season (November 30) and ends the second Monday in April each year. The non-training use period is currently in effect, as requested by the Montana Department of Fish, Wildlife and Parks, to protect big game wildlife habitat.

Every training session at the LHTA takes place primarily on one or more of 17 designated live-fire training ranges and a dismounted training area. Ranges at the LHTA are defined by the type of gunnery and/or vehicle used during training, by the location of the range, and the training range mission. Range locations and configurations are based on the following existing characteristics:

- Designated range firing locations which are the points from which a weapon may be fired during training, and
- The range surface danger zones, which are the areas that include the farthest distance that something fired from a firing point may reach, including distances reached by fragmentation escape (Army Regulation [AR]-385-63).

Table 3-4 describes each range currently used at the LHTA. Range locations by firing points and surface danger zones are shown in Figure 2-2. The frequency of use of each range shown in Table 3-4 is based on usage during 2003. These values vary from year to year as some ranges are used more than others to meet the military mission.

Training exercises by units such as those described in Table 3-4 take place on one or more of the ranges shown on Figure 2-2. All personnel who participate in training ranges must adhere to preset direction and conditions for training described in range-specific manuals. Range manuals are required to be on site during all training activities on that range. Each range manual contains detailed instructions describing range location, firing points, targets, weapon systems for that range, authorized ammunition, access restrictions, and firing restrictions. The manuals also include requirements and instructions for safety, communications, transportation, and encounters with nonmilitary land users. All range manuals are located at Training Site Headquarters in Billeting Office 1011, Fort Harrison in Helena, Montana.

**TABLE 3-4
RANGE DESCRIPTION SUMMARY**

Map ^a Location	Primary Use	Mission	No. of Firing Points	Weapons	Frequency Used ^b (days)
Bradley Use SDZs ^c	Bradley Use Training	Train Bradley Fighting vehicle crews in the science of gunnery	7 stationary and 4 STAB ^c points	<ul style="list-style-type: none"> • M2/A2 Bradley Fighting Vehicle • 25mm Chain Gun, TOW^c, Coax Machine Gun 	60
Composite SDZs	Tank Gunnery Training	Train M1A1 tank crews in the science of gunnery	7 stationary and 4 STAB ^c points	<ul style="list-style-type: none"> • M1/A1 Tank • 120mm Main Gun • .50 Cal Machine Gun • Coax Machine Gun 	22
Composite SDZs	Training in the use of 25-Meter Pistol, Rifle, and Machine Gun Weapons Firing Points	Train soldiers in the operation of their individual weapons	12	<ul style="list-style-type: none"> • M16/M4 series weapons • M60/M249/M240B Series Weapons • 7.62mm Sniper Weapon System • .45 Caliber Pistol • 9mm Pistol • .38 Caliber Pistol 	3
Live Fire Scout Course	Live Fire Drills	Train soldiers on movement to contact drills and mounted live fire drills	4 engagement areas	<ul style="list-style-type: none"> • M16/M4 series weapons • M249 Squad Automatic Weapon • M60 Machine Gun • M2 HB Machine Gun 	5
Composite SDZs	40mm/M203 range Grenade Launcher Familiarization	Train soldiers on the use of the M203 grenade launcher	2	<ul style="list-style-type: none"> • M203 Grenade Launcher • M79 Grenade Launcher 	5
Composite SDZs	Multi-Purpose Machine Gun M60/and .50 Cal Qualification	Train soldiers on crew served weapons systems	4 transition course lanes and 2, 10-meter qualification lanes	<ul style="list-style-type: none"> • M249 Squad Automatic Weapon • M60 Machine Gun • M2 HB Machine Gun • M240B Machine Gun 	58

**TABLE 3-4
RANGE DESCRIPTION SUMMARY**

Map ^a Location	Primary Use	Mission	No. of Firing Points	Weapons	Frequency Used ^b (days)
Mortar Firing Points	60mm/81mm/120mm Mortar Range – Indirect Fire	Train mortar crews on their primary weapon system	4	<ul style="list-style-type: none"> • 120mm^c Mortar • 60mm^c Mortar with sub-cal device • 4.2" Mortar • 81mm Mortar • Short Training Round Practice 	18
Composite SDZs	LAW ^c / AT-4 Range Anti-Armor Weapon System Familiarization	Train soldiers in light anti-tank operations	1	<ul style="list-style-type: none"> • M72A2 Light Anti-Tank Weapon • AT-4 • 90mm Recoilless Rifle • TOW^c guided missile system • DRAGON^c guided missile system 	2
Composite SDZs	DRAGON ^c Range	Train soldiers in medium anti-tank operations	2	<ul style="list-style-type: none"> • DRAGON^c guided missile system 	3
Composite SDZs	TOW ^c Range	Train soldiers in heavy anti-tank operations	1	<ul style="list-style-type: none"> • TOW^c guided missile system 	3
Composite SDZs	Claymore Mine Area	Train soldiers in anti-personnel mine operations	4	<ul style="list-style-type: none"> • M18/A1 Claymore Mine • All Military or Civilian Demolitions 	7
Composite SDZs	Ariel Gunnery Range	Train helicopter crews on the proper standards of door gunnery	1 Lane	<ul style="list-style-type: none"> • M-60 Machine Gun • M249 Machine Gun 	8
Hand Grenade Range	Live Hand Grenade Training	Train soldiers on the use of live hand grenades	2	<ul style="list-style-type: none"> • Hand Grenades 	7
Hand Grenade Range	Hand Grenade Qualification Course (Nonfiring)	Qualify soldiers on the use of hand grenades	1 lane	<ul style="list-style-type: none"> • Training Grenade – M69 	9
Composite SDZs	MK-19 Range (transition)	Train soldiers on the use of the MK-19 automatic grenade launcher	2	<ul style="list-style-type: none"> • MK-19 	34

**TABLE 3-4
RANGE DESCRIPTION SUMMARY**

Map ^a Location	Primary Use	Mission	No. of Firing Points	Weapons	Frequency Used ^b (days)
Live Fire and Movement Range	Live Fire and Movement Training	Train soldiers in the science and art of fire and movement and live fire ambush training	1 Lane	<ul style="list-style-type: none"> • M-60 Machine Gun • M249 Machine Gun • M240B Machine Gun • M16/M4 Series Weapons • M203 Grenade Launcher • M249 Squad Automatic Weapon • M-9 Pistol 	3
Heavy Demolition Range	Heavy Demolitions Training (up to 400 pounds)	Train soldiers in the proper and safe use of explosives and explosive devices	1 Lane	<ul style="list-style-type: none"> • Explosives and Demolitions 	6
Entire LHTA	Light Maneuver Area	Used for training that does not use live fire, however, is soldier essential such as: land navigation, drivers training, and field survivability training.	None	None	57

Note:

^a Range location shown on Figure 2-2.

^b Number of days range is used per year, based on MTARNG records for March 1, 2003 through November 30, 2003. Range closed: December 1, 2003 through the second Monday in April. Use frequency shown as 0 indicates that the range was not used in 2003.

^c Acronym Definitions

Cal	Caliber
LHTA	Limestone Hills Training Area
mm	Millimeter
STAB	Stabilization
TOW	Tubed-launched optically tracked wire-guided missile
LAW	Light anti-tank weapon
DRAGON	Wire-guided anti-tank missile
SDZ	Surface Danger Zone



Ammunition Hut



Range Support Building

UNEXPLODED ORDNANCE AT THE LHTA

Unexploded ordnance risk at the LHTA is managed in accordance with the most current Department of Defense (DoD) directives and implementing guidance (DoD 2004 and DoD 1996). The LHTA is partitioned into two areas: a closed area west of Old Woman's Grave Road and an open area east of Old Woman's Grave Road. The area east of Old Woman's Grave Road is referred to as the "nonclosure area" (Figure 1-2). Hazardous materials and unexploded ordnance are described in detail under Section 3.10.6.

LHTA FACILITIES

Tables 3-5 and 3-6 provide a list of MTARNG facilities located at the cantonment area and range area (Figure 3-2). These facilities include buildings, concrete and asphalt pads, and an above-ground storage tank. In addition to the facilities for the range area, each range may have some or all of the following: bunkers, target emplacements, power and communications wiring, parking lots, access roads, bivouac areas, firing points, observation points, training pits, staging areas, and miscellaneous range equipment.

NATURAL RESOURCE PROTECTION TRAINING RESTRICTIONS

Training restrictions for the purposes of ecosystem protection are imposed on all military activities at the LHTA. All military activities are conducted in accordance with the following environmental and training manuals:

- *Soldier's Handbook for Environmental Protection* (Montana Department of Military Affairs [DMA] 1999),
- Army regulations governing environmental protection and enhancement of military ranges (Army Regulation 200-1),
- MTARNG's *Integrated Natural Resource Management Plan* and *Integrated Cultural Resource Management Plan*,
- *Sikes Act, Elkhorns Travel Management Plan* (BLM 1995), and
- National Guard integrated training area management program.

Environmental planning requirements addressed under the guidance includes an environmental assessment (or impact statement) and documentation required by the National Environmental Policy Act, wetlands protection, protection of terrain from tracked vehicles, protection of trees and shrubs, soil protection, bivouac site protection, wildlife protection, cultural resources protection, noise reduction, solid waste disposal, and spill prevention/cleanup. These documents assist the MTARNG in planning for training at the LHTA, assessing and reducing environmental damage, and ensuring compliance with environmental laws and regulations.

**TABLE 3-5
FACILITIES LOCATED AT THE CANTONMENT AREA**

Facility Official Name	Use	Size	Structure description
Range Support Facility	Unit Training Equipment Site maintenance bays, training site maintenance bay, and dining/billeting/shower facility	800 sq yd	Brick
Loading Dock (2 each)	Loading dock	Unknown	Wood
Tent Pads	Tent pad	2,640 sq ft	6 Concrete pads
Rotary Wing Landing Pad	Rotary wing landing pad	7,200 sq ft	Concrete pad
Open Area Storage	Open area storage	15,000 sq yd	Concrete pad
Flag Pole	Flag pole		
Organization Vehicle Parking	Organization vehicle parking (east of Unit Training Equipment Site)	40,000 sq yd	Concrete pad
Fuel Containment	Refueling pad	5,500 gal	Concrete pad
Mobile Conduct of Fire Trainer	Firing pad	1,800 sq ft	Concrete pad
Aboveground Tank	Gasoline storage	500 gal ^(b)	Uncovered tank
Septic Tank	Underground septic tank with manhole	Unknown	Concrete
Pump House Building	Protects pump	100 sq ft	Wood storage building
Trailer	Storage	400 sq ft ^(b)	Wood sided, unskirted
Guard Shack ^(a)	Shelter	50 sq ft ^(b)	Aluminum sided

Notes:

sq ft square feet
sq yd square yards
gal gallon

a Shelters for road guards (guard shacks) are located at the two entrances into the LHTA on Old Woman's Grave Road

b Approximate size

**TABLE 3-6
FACILITIES LOCATED AT THE RANGE AREA**

Facility Official Name	Facility Field Name	Size	Structure description
Ammunition Hut	Old ammunition handling pad (soldier sleeping area)	1,800 sq ft	4 ft by 30 ft by 60 ft slab of concrete, covered by a roof
Range Support Facility	Target shed	192 sq ft	Wood
Ammunition Storage Pad	Ammunition storage pad	495 sq ft	Approximately 4 ft deep by 22 ft by 22 ft slab of concrete, covered by a roof and 2 walls (wood frame, wood
Rotary Wing Landing Pads	Rotary wing landing pad	1,600 sq yd	Concrete pad
Rotary Wing Landing Pads	Rotary wing landing pad	2,000 sq yd	Concrete pad
Flag Pole	Flag pole	Unknown	Pole
Observation Tower	Range tower	Unknown	Three stories, brick
Briefing Building	Briefing building	Unknown	Concrete

Notes:

ft foot
sq ft square feet
sq yd square yards

The MTARNG applies Integrated Training Area Management Program requirements to environmental management of the LHTA. This program was initiated with the realization that Army training lands were being degraded to the point where their capabilities to sustain military missions were in jeopardy.

The following measures specific to the LHTA are currently in place to minimize damage to natural resources from military training exercises:

- Range control personnel restrict tracked vehicle movements on wet or saturated soils.
- All motorized vehicles are restricted to designated roads. No off-road motorized travel is allowed.
- Vehicles are required to avoid driving on road shoulders and in ditches.
- All wetland areas are avoided.
- All ground-disturbing activities (for example, tank ditches or traps, foxholes, and road construction) require NEPA review.
- Wastewater from field showers and mess facilities is controlled or retained.
- Field laundry facilities are to be authorized in range areas.
- Vehicles are not washed in the LHTA.

- Certain areas are off-limits to military training due to special concerns, such as cultural resources, endangered species, wetlands, seeps and springs, high biodiversity value, or other concerns.
- The MTARNG takes all prudent and reasonable precautions to minimize damage to all natural and cultural resources and provides a pamphlet to units training at the LHTA that defines cultural resources and directs personnel to avoid affecting them.
- The MTARNG takes all necessary precautions to prevent injury to the general public.
- Cutting vegetation for training or other purposes is prohibited unless specifically approved by the MTARNG Environmental Office on a case-by-case basis.
- All wire and pyrotechnics are removed by the training force as soon as possible after completion of training activities.
- The MTARNG takes all reasonable precautions to prevent injury to livestock. Any injured livestock is reported to the grazing permittee whether or not the injury or death is the result of military action. The MTARNG processes claims for loss of livestock and pays claims determined to be the result of Guard activities.
- The MTARNG locates and removes or destroys undetonated rounds outside the high explosive impact area after each exercise.
- The MTARNG keeps the LHTA free of debris. Prior to the end of each use season, the MTARNG sweeps all non-high explosive active impact areas to remove litter and debris.
- The MTARNG removes tube-launched, optically-guided tracked-wire (TOW) missile wire from the range after use to prevent injury to livestock and wildlife.
- A representative of the MTARNG attends an annual meeting with grazing permittees to coordinate range use and discuss problems from the preceding season. The meetings are arranged by the BLM.
- All Montana laws regarding firearms apply at the LHTA.
- The MTARNG suppresses fires caused by their activities. A fire-capable tank truck and fire-trained personnel are present during all training exercises that have the potential to start a fire. The MTARNG Fire Suppression Plan is provided in Appendix D.
- To reduce fire hazard, use of incendiary bullets (tracers) is limited as much as feasible within the constraints of the MTARNG mission.

Based on MTARNG Training Center plans, the following modifications to military training at the LHTA are expected to occur within the next five years:

- reduced use of tracked vehicles and increased use of lighter vehicles (such as humvees),
- improved technologies such as the use of simulations such as lasers instead of live fire,
- development of a qualifying training range used to qualify soldiers for marksmanship, and
- reduced size and changes in the shape of surface danger zones.

3.1.3 NONMILITARY USE

The MTARNG uses most of the public land at the LHTA for military training in one form or another. In addition to military use, the LHTA is also used for livestock grazing, recreation, vehicular transportation, and mining. This section describes the non-military uses of the LHTA.

3.1.3.1 Grazing

Grazing by sheep, cattle, and horses has occurred on the LHTA since the late 1800s and was associated with early mining and settlement of this section of the Missouri River. Settlers and ranch families often established a claim for land around a spring where a homestead would be built and cattle and horses would graze on surrounding unclaimed public domain areas. In 1934, under the *Taylor Grazing Act*, unclaimed federal lands such as federal land in the LHTA, were put under the management of the Department of the Interior National Grazing Service. Livestock grazing continues on these federal lands today under a permit system regulated by the BLM.

The current grazing permit system at the LHTA recognizes priority in occupancy and allows grazing terms and permits for specific parcels to remain with individuals and ranches as long as the permittees meet permit conditions. Most permits are renewable and valid for a period of 10 years. Preference for grazing allotments is given to operators engaged in the livestock business that own or control land suitable as base property. Permits and associated allotment management plans describe allowable livestock class, intensity, duration and timing of grazing; some permits stipulate installation and/or maintenance of fences, water developments, and other range improvements. Grazing allotments within and around the LHTA are shown on Figure 2-3.

The BLM Butte Field Office has evaluated the range condition and/or health for most grazing allotments within the LHTA. During this process, an interdisciplinary team of BLM resource specialists assesses the condition and/or health of the grazing allotments and uses the information to assist with creating allotment management objectives and help manage the allotment. In 2002, the BLM assessed the Bald Hills, Limestone East, and Limestone Hills allotments for Montana Standards for Rangeland Health in accordance with 43 CFR 4180 (Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration). The Rangeland Health Assessments included the identification of factors influencing the condition of the resources. The results of the Rangeland Health Assessments are described in the following sections addressing each allotment.

As part of the collection of baseline resource data for the potential LHTA land withdrawal, the MTARNG Environmental Office contracted with The Center for the Ecological Management of Military Lands to establish 40 permanent vegetation monitoring transects at the LHTA. During the summer of 1998, data were collected from these transects to assess overall study area conditions such as noxious weed infestations and livestock grazing. During the 1997 and 1998 period, Tetra Tech EM Inc. and WESTECH completed the identification and delineation of upland vegetation and wetland communities on approximately 20,000 acres at the LHTA. In 2001, WESTECH completed quantitative Ecodata

assessments at 20 0.1 acre plots at LHTA. Reports completed for the MTARNG for these LHTA site-wide vegetation and wetland resource assessments include:

- *Vegetation Report for the Limestone Hills and Fort Harrison Properties*, Tetra Tech EM Inc., 1998a.
- *Wetlands and Waters of the U.S. Delineation Report for the Limestone Hills and Fort Harrison Properties*, Tetra Tech EM Inc., 1998b.
- *Vegetation/Land Condition Report*, WESTECH, 1999.
- *Vegetation Monitoring Report for the Limestone Hills and Fort Harrison Properties 2001*, WESTECH, 2001.

The LHTA contains all, or portions of, five grazing allotments (Figure 2-3). Descriptions of each allotment are summarized in Table 3-7 and include the type of livestock, season of use, current animal unit months, total acreage, and LHTA acreage by ownership. Additional information for these allotments is provided in this subsection.

**TABLE 3-7
GRAZING ALLOTMENT INFORMATION SUMMARY
LIMESTONE HILLS TRAINING AREA**

Allotment Name & Number	Number of Livestock	Grazing Season (Month/Day)	Total AUMs	Total Acreage	LHTA Acreage		
					BLM	State	Private
Bald Hills No. 20279	100 Cattle	5/15 to 9/15	50	1,493	130	0	0
Dowdy Ditch (North and South) No. 20209	27 Cattle	5/1 to 6/15	40	1,693	1,344	0	0
Limestone East No. 20281	1,200 Sheep	11/2 to 3/3	780	10,117	8,297	638	1,182
Limestone Hills No. 20273	484 Cattle	5/15 to 9/30	1,944	14,085	13,118	640	327
Section 33 No. 20296	1 Cattle	6/1 to 10/31	5	1,160	0	0	0

Notes:

LHTA = Limestone Hills Training Area

AUM = Animal Unit Month (approximately 780 pounds forage [dry weight])

Allotments are shown on Figure 2-3

Bald Hills Allotment. The Bald Hills allotment covers approximately 725 acres of federal land, 320 acres of state land, and 448 acres of private land along the banks of the Missouri River and up into the adjacent foothills. About 130 acres of federal land for this allotment fall within the existing LHTA boundary. The Missouri River is the primary water source on this allotment. The BLM has permitted this allotment since 1953 with various amounts, seasons of use, and types of livestock permitted. Recently, the allotment has been used from mid-May through early July by approximately 100 head of cattle. The predominant vegetation cover type is bluebunch wheatgrass grassland on a landscape described as having silty-textured soils, moderately droughty, and with an accumulation of calcium carbonates. This landscape type receives 10 to 14 inches of precipitation (Olsen and others 1977). The

2002 assessment of standards for rangeland health determined that the allotment was meeting the Montana standards for rangeland health for the upland, air quality, and diversity components, but not meeting the standards for the riparian and water quality components. The riparian areas of the allotment were determined to have an upward trend. The lack of meeting water quality was based on the 303(d) listing (impaired waters) for the section of the Missouri River that flows along the eastern border of the Bald Hills allotment. Most of the public land portion (98 percent) of the Bald Hills allotment is classified as having "good" range condition, with the remaining two percent as "fair" condition (BLM 2002a).

Dowdy Ditch Allotment. The Dowdy Ditch allotment covers approximately 1,693 total acres of federal land, of which approximately 1,344 acres lie within the existing LHITA. This allotment is divided into a northern half and southern half with separate permit lessees for each. The area has very little available water for livestock. The dominant vegetation cover types are black sagebrush shrubland in the northern part and mountain mahogany shrubland in the southern LHITA part of the allotment (WESTECH 1999). The range sites are mainly shallow to bedrock in the northern half and very shallow to bedrock in the southern half (Olsen and others 1977). Based on two transects conducted by the BLM in 1999, range conditions are classified as "good" for the black sagebrush type and "excellent" for the mountain mahogany type (WESTECH 1999). A rangeland assessment summary is not available for this allotment.

Limestone East Allotment. The Limestone East allotment covers approximately 8,297 acres of federal land, 638 acres of state land, and approximately 1,182 acres of private land in the eastern part of the LHITA. This allotment has been historically grazed by sheep during the winter months. The number of sheep grazing the allotment has been variable but has been within the permitted levels. Permit conditions allow sheep use of the area from November until March. The extent of use for sheep grazing is determined by the presence or absence of snow. Animal unit months used since 1994 range from 592 to 780. During the past 10 years, the allotment cover has increased with juniper, needle and thread grass, and blue grama grass. Bluebunch wheatgrass has decreased in frequency and cover over this time period (BLM 2002a). The predominant vegetation cover type is big sagebrush shrubland (WESTECH 1999) and the dominant range site is a shallow range site. The area receives 10 to 14 inches of precipitation (Olsen and others, 1977). Sixty-five percent of the public land portion of the Limestone East allotment is classified by the BLM as "good," thirty-three percent as "fair," and two percent as "excellent" (BLM 2002a). The 2002 rangeland assessment determined that this allotment was meeting the Montana standards for rangeland health for all five components: upland, riparian, water quality, air quality, and diversity.

Limestone Hills Allotment. The Limestone Hills allotment is the largest of the LHITA grazing allotments covering approximately 13,118 acres of federal land, 640 acres of state land, and numerous small tracts of private mining claims (that add up to about 327 acres) in the central and northwest portion of the LHITA. A separate grazing permit administered by the Montana Department of Natural Resources and Conservation is issued for the state land. Currently four permittees graze cattle on this allotment from early June through September. Additional livestock water sources have been developed

but are still insufficient to support all permitted livestock during dry years (BLM 2002a). The BLM has indicated that additional fencing and water developments would improve the range (BLM 2002a). The combined allowable animal unit months for the four permittees is 1,870 animal unit months, but actual use has varied from a low of 1,384 animal unit months in 1995 to a high of 1,675 animal unit months in 2000 (BLM 2002a). Three main vegetation cover types are recorded for this allotment and include the bluebunch wheatgrass grassland, fescue grassland, and conifer woodland types (WESTECH 1999). The main range sites are "shallow," "silty," and "silty limey," with 10 to 14 inches of precipitation (Olsen and others, 1977). Some of the higher elevation areas receive 15 to 19 inches of precipitation. Twenty-four percent of the allotment is classified by the BLM as "good" range condition, seventy-four percent is classified as "fair," and two percent is classified as having "poor" range condition (BLM 2002a).

The 2002 rangeland assessment determined that the allotment was meeting the Montana standards for rangeland health for the water quality, air quality, and diversity components, but not meeting the standards for the upland and riparian components. The pasture area within the firing range was determined to not meet the rangeland standards because needle and thread grass has replaced bluebunch wheatgrass as the dominant species and the repeated small grass fire and associated soil disturbance from military activities has resulted in accelerated soil loss in some areas. Two other pastures in this allotment, the "compound" and "marble quarry" have been degraded by livestock grazing. The lack of meeting standards for the riparian area had nothing to do with grazing and was related to past placer mining, reclamation, and roads that created non-functioning drainages.

Section 33 Allotment. The Section 33 allotment covers approximately 310 acres of federal land within the current LHTA and would cover about 310 acres in the withdrawal area. This allotment is used in conjunction with private ranch land outside the LHTA. The dominant vegetation cover type is big sagebrush shrubland (WESTECH 1999). The primary range type is the "shallow" (to bedrock) type (Olsen and others 1977). Range conditions have not been determined for this allotment.

ALLOTMENT FEES

Grazing bills for all allotments, except the Limestone Hills allotment, must be paid by the permittees before turning out livestock for grazing. The Limestone Hills allotment has an allotment management plan that provides after-the-fact billing based on actual use.

The BLM manages grazing on the LHTA under regulations stipulated in 43 Code of Federal Regulations 4100. Permit fees are based on the number of animal unit months of forage available for grazing. An animal unit month is the amount of dry weight forage needed to sustain a 1,000 pound cow/calf pair for 1 month and equals approximately 780 pounds. For billing purposes, one cow/calf pair, one horse, one bull, one steer, or five sheep are all equal to one animal unit month. The cost of an animal unit month varies depending on a complex BLM calculation using current stock prices, private land lease rates, and other regional specific variables. For 2008, the rate was \$1.35 per animal unit month.

Revenue generated by grazing permit fees are dispersed to three funds: 37.5 percent to the Federal Treasury; 50 percent to BLM's rangeland improvement fund (construction of fences and other improvements); and 12.5 percent is given to the State of Montana, which in turn distributes the money to the counties. The permit lessee is responsible for maintaining all range improvements (fences, springs, and riparian enclosures) and following the terms and conditions specific to the allotment.

Grazing units on the LHTA generate approximately \$4,300 from the federal land and approximately \$1,500 from state-owned land each year. The LHTA pastures provide local ranchers with seasonal grazing use that is considered valuable to their ranch operations. Currently, one BLM range management specialist or range technician normally field checks grazing allotments during the grazing season to monitor permit compliance, vegetative conditions, and livestock impacts. At the end of the season, the BLM specialist or technician normally assesses the allotment for utilization.

MTARNG INTERACTIONS WITH CATTLE

The MTARNG has no record of cattle having been injured or killed by military training activities in the LHTA. MTARNG LHTA staff patrol grazing allotments on the LHTA on a daily basis and monitor the general locations of the grazing cattle. The MTARNG has developed standard practices to drive away or remove cattle from target areas prior to scheduled firings.

3.1.3.2 Recreation

Recreation in the LHTA is managed by the BLM under the *Headwaters RMP* (BLM 1984) and the *Elkhorn Mountains Travel Management Plan* (BLM 1995). The primary recreational uses in the LHTA are motorized off-highway vehicle riding and driving for pleasure with conventional vehicles to gain access within the area. Nonmotorized opportunities include hunting, horseback riding, mountain biking, and hiking. Public access is currently allowed in all land east of, and including, Old Woman's Grave Road, which is considered safe and compatible with current and past military activity: This area is designated in the Elkhorn Mountains travel management plan as category "B," defined as an area closed to off-road motorized traffic year-long, but open to road use yearlong with periodic designated road closures from April 15 to November 30. Public access to closed lands west of Old Woman's Grave Road is only permitted with prior permission and a MTARNG-approved escort due to risk of encountering ordnance and explosive hazards.

The Montana Department of Fish, Wildlife and Parks manage the game species population. Permitted hunting schedules are coordinated with the MTARNG to ensure that hunting activities occur without conflicting with military missions.

3.1.3.3 Mineral Uses

The BLM is responsible for management of federal mineral estate in the LHTA. All federal land in the LHTA was available for active mining under the mining laws and mineral leasing laws, until segregation

on August 12, 2007. Access to land including mining claims in the LHTA, however, may be restricted by the MTARNG based on safety issues related to potential explosive ordnance contamination. Exploration and development of minerals on the mining claims is regulated by rules procedures and various permitting requirements imposed by both the BLM and the Montana DEQ. Graymont Western U.S. Inc, of Salt Lake City, Utah holds 368 unpatented mineral lode and placer claims, and four (4) patented millsites in the LHTA. Section 3.3 provides a description of land use for mineral extraction in the LHTA.

3.1.3.4 Fire Management

The BLM is currently responsible for ensuring that fire fuel mitigation and fire control on federal land in the LHTA are conducted in accordance with the 2003 fire/fuels management plan (BLM 2003). The overall goals of the BLM fire management policy are:

- Improve fire prevention and suppression
- Reduce hazardous fuels
- Restore fire-adapted ecosystems, and
- Promote community assistance.

Because most fires within the LHTA are the result of military training exercises, the BLM has delegated fire fuel mitigation and suppression activities to the MTARNG during military training exercises.

The MTARNG manages the LHTA in accordance with the Limestone Hills training site wildfire suppression plan, which is incorporated into the MTARNG right-of-way decision document and provided in Appendix D. The current wildfire policy at the LHTA is total suppression. MTARNG personnel are responsible for detecting and suppressing fires that may occur during training exercises. All costs for suppression and control of fires resulting from military activities are incurred by the MTARNG. The MTARNG provides a fire-capable tank truck and personnel trained in its use during exercises that could result in a fire. Fire suppression when the MTARNG is not present in the LHTA is the responsibility of the BLM. In turn, BLM has delegated responsibility for fire suppression to the Forest Service under an Interagency Suppression Agreement that covers this area.

3.1.3.5 Weed and Pest Control

The BLM manages federal land in the LHTA for weed control in accordance with requirements described in the *Final Environmental Impact Statement Vegetation Treatment on BLM Lands in the 13 Western States* (BLM 1991) and *Partners Against Weeds – An Action Plan for the BLM* (BLM 1996). Weed control activities focus on areas of disturbance and are performed primarily by MTARNG personnel as described in the *MTARNG Pest Management Plan* (MTARNG 1998b). Section 3.6 describes noxious weeds in the LHTA.



Main LHTA Road Network Looking South Showing Range Support Facility



North Gate Guard Shack

The MTARNG currently sprays noxious weeds in high traffic areas of the closure area (such as near roadways and training facilities) in accordance with the LHTA *Pest Management Plan* (MTARNG 1998b) and BLM requirements. In 2004, the MTARNG aurally sprayed 814 acres at Limestone Hills including 164 acres along ridge tops and within the active impact area for noxious weeds. In addition, to more efficiently utilize resources for invasive species control, the MTARNG contracts with the Townsend High School "School-to-Work" program to develop Geographic Information System weed data layers in the non-closure area of the Limestone Hills Training Area (Department of Military Affairs and Townsend School District #1 2005).

3.1.3.6 Access and Rights-of-Way

The BLM currently authorizes 14 rights-of-way on the LHTA for the following uses: (1) military use, (2) telephone and telegraph lines, (3) a communication site, (4) power transmission, (5) gas transmission, and (5) roads (Acree 2006). These facilities are located on Figure 3-3. Additional information is provided under Section 3.10.4 (Infrastructure).

The LHTA is also traversed by three county roads: Old Woman's Grave Road runs north-south through the center of the LHTA, River Road runs north-south adjacent to the east boundary of the LHTA withdrawal area, and Indian Creek Road transects the far northwest corner of the LHTA adjacent to Indian Creek (Figure 1-2). These county roads provide access to and from ranches, mine sites and recreational areas. Users are not required to have a permit to use these roads, nor are permits required for the use of any other road within the portion of the LHTA east of Old Woman's Grave Road.

County roads are accessible to all traffic. Currently, the MTARNG restricts access on roads within the LHTA when military operations could cause unsafe conditions. All roads east of, and including Old Woman's Grave Road are open all year with periodic designated road closures between the second Monday of April and November 30. With the exception of Indian Creek Road and a private access road to the Graymont mine, roads passing through the LHTA area west of Old Woman's Grave Road are closed to nonmilitary use at all times.

3.1.4 NONMILITARY STRUCTURES

All facilities in the LHTA are military facilities and are described in Section 3.1.2.

3.1.5 LOCAL ZONING

The LHTA does not fall under local zoning ordinances. The only areas zoned in Broadwater County are in the town of Townsend (Brown 2004).

3.1.6 PROPERTY OWNERSHIP, LEASING, AND OTHER PROPERTY AGREEMENTS

The legal description for the entire land area that falls within the boundaries of the affected area is provided in Appendix A. The majority of the land within the LHTA boundary is federally-owned, administered by the BLM Butte Field Office. It includes two state school sections as well as a few privately owned parcels. The MTARNG has negotiated long-term lease agreements for the use of lands in this training area. However, in general, the LHTA remains a multiple-use area. Table 3-8 summarizes the acreage of the ownership of lands within the LHTA. Figure 3-2 identifies land owners in the LHTA.

TABLE 3-8 LAND OWNERSHIP LIMESTONE HILLS TRAINING AREA	
Land Ownership	Acreage
Federal Land (Total)	18,715
State Land	1,277
Private Inholdings	1,389
Closed Federal and State Land	8,573
Open Federal and State Land	11,379
Total Acreage of Land within Withdrawal Boundary (Federal, State, and Private)	21,381

3.1.7 DEVELOPMENT PLANS AND PROGRAMS PROPOSED FOR IMPLEMENTATION IN THE VICINITY OF THE LHTA

Broadwater County identified two potential residential subdivisions that may be constructed within the next five years near the LHTA. Deerpath Estates consists of seven lots ranging in size from 3.24 to 15.43 acres and located in Section 36, Township 7 North, and Range 1 East adjacent to the northeast corner of the LHTA near River Road. As of December 2005, two lots have been sold and one model home has been constructed on a third lot (Lethert 2005, Brown 2004).

Tuemmler – Minor Subdivision, located adjacent to the LHTA, has been approved but is undeveloped (Lethert 2005, Brown 2004). It consists of three lots ranging in size from 3.28 to 10.88 acres. The subdivision is located in Section 1, Township 6 North, and Range 1 East. Both subdivisions are owned by Melissa and Paul Tuemmler.

3.1.8 RESEARCH PROJECTS ON THE LHTA

The LHTA is currently used by the Colorado School of Mines and the University of British Columbia to conduct research into the variations of magnetism on fired projectiles.



**View from Limestone Ridge South of Mine Area to the Range Support Facility;
Canyon Ferry Reservoir and Missouri River in Background**



LHTA Study Plot for Research on the Variation of Magnetism on Fired Projectiles

3.2 AIR QUALITY AND NOISE

This section describes the methodology used to evaluate and define air quality and noise and presents the current status in the study area. Ambient air quality is determined by the amount of each individual pollutant emitted into the atmosphere, the size and topography of the airshed, and the prevailing meteorological conditions. Meteorological conditions tend to influence pollutant concentrations because dispersion of pollutants is a function of wind speed, wind direction, atmospheric stability, and other meteorological variables. The ambient noise at a receptor location in a given environment is the all-encompassing sound associated with that environment, and is due to the combination of noise sources from many directions, near and far, including the noise source of interest.

REGION OF INFLUENCE

The air quality study area (region of influence) for any emission source or groups of sources varies depending upon the type of pollutant released and source-specific parameters of the release. For pollutants that are considered non-reactive or inert (that is, all criteria pollutants other than ozone and its precursors), the region of influence for most pollutant sources is generally limited to an area extending no more than a few miles downwind from the release point (U.S. Army Corps of Engineers [USACE] 1998). Large sources of pollutants released from tall stacks or at high vertical velocities may affect sources tens of miles away and occasionally at even greater distances. Ozone is a secondary pollutant, which is formed in the atmosphere by photochemical reactions among other pollutants (referred to as "precursors") and oxygen. Precursors necessary to form ozone are generally believed to include volatile organic compounds in the form of hydrocarbons having significant vapor pressures at ambient air temperatures and nitrogen oxides. The region of influence for ozone precursors may extend much farther downwind than the region of influence for inert pollutants. Most emissions released at the LHTA are small in quantity, inert, and not generally subject to long-range transport resulting in a localized region of influence for the purposes of this EIS. The town of Townsend may be a receptor of dust emissions arising from training activities at the LHTA when a southwest wind coincides with training activities. The region of influence for emissions is generally limited to a few miles downwind from a source (USACE 1998).

3.2.1 CLIMATE

The LHTA is located in southwestern Montana among the foothills and eastern valleys of the Rocky Mountain range. The site sits primarily in the valley of the Missouri River, but includes foothill areas with elevations ranging from about 3,900 feet near the Missouri River to 5,859 feet at the highest point in the Limestone Hills. This area has a semi-arid climate characterized by low rainfall, moderate to low humidity, and wide temperature variations. Climate records from the Western Regional Climate Center for Townsend dating from 1948 to the present, Helena dating from 1893 to the present, and Bozeman dating from 1892 to the present were used for this summary. Townsend data are most representative of the LHTA, since the town is located within a few miles of the facility. Those data

indicate that the average annual precipitation is 10.6 inches, including an average of 23 inches of snowfall. Nearly two-thirds of the precipitation total, 6.4 inches, falls during the months of May through August. The annual average maximum temperature is 58 degrees Fahrenheit (°F) with July having the warmest readings, averaging 83°F, and January having the coolest average highs at 33°F. The average annual low temperature at Townsend is 30°F, with January the coolest month, averaging 10°F and July the warmest, averaging 50°F.

The region containing the LHTA experiences an average of 82 days per year with clear skies, 104 days with partly cloudy skies, and 179 days with cloudy skies. Relative humidity data indicate that the area is relatively moist, with annual average readings of 72 percent in the mornings and 45 percent in the evening hours. July and August are the driest months, while November and December are the dampest.

3.2.2 APPLICABLE AIR QUALITY REGULATIONS AND STANDARDS

The U.S. Environmental Protection Agency compares pollutant concentrations in a geographical area to federal national ambient air quality standards and state-specific air quality standards to determine if air quality attains these standards. Areas that do not attain air quality standards are referred to as a "nonattainment area" for a specific pollutant. Individual criteria pollutants for attainment determination are: carbon monoxide, nitrogen dioxide, ozone, particulate matter less than 10 micrometers in diameter (PM₁₀), particulate matter less than 2.5 micrometers in diameter (PM_{2.5}), sulfur dioxide, and lead. PM₁₀ is usually generated by windblown dust, pollen, or road dust. Concentrations of pollutants in the atmosphere are normally expressed as parts per million by volume for the gaseous pollutants or micrograms per cubic meter for particulates and particulate-bound pollutants.

FEDERAL AIR QUALITY STANDARDS

Under authority granted by the *Clean Air Act* and subsequent amendments, the U.S. Environmental Protection Agency has established national ambient air quality standards for the entire U.S. in order to provide for protection of public health and the environment, while providing an adequate margin of safety. Ambient air quality refers to the prevailing atmospheric conditions. National ambient air quality standards were developed for the six criteria pollutants, and are established in the form of pollutant concentrations (for example, parts per million) averaged over various periods of time (averaging periods). Generally, short-term standards (1-hour, 8-hour, or 24-hour averages) apply to pollutants likely to cause acute health effects, while long-term standards (annual averages) apply to pollutants having chronic health effects. In some cases, where multiple risks may be involved, both short- and long-term standards are in place. A summary of these national ambient air quality standards is presented in Table 3-9.

**TABLE 3-9
AMBIENT AIR QUALITY STANDARDS**

Air Pollutant	Averaging Time	Federal National Ambient Air Quality Standards		Montana Ambient Air Quality Standards
		Primary	Secondary	All
Carbon monoxide	1-hour	35 ppm ^(b)	—	23 ppm ⁽ⁱ⁾
	8-hour	9 ppm ^(b)	—	9 ppm ⁽ⁱ⁾
Nitrogen dioxide	1-hour	—	—	0.30 ppm ⁽ⁱ⁾
	Annual	0.053 ppm ^(c)	0.053 ppm ^(c)	0.05 ppm ^(k)
Ozone ^(a)	1-hour	0.12 ppm ^(d)	0.12 ppm ^(d)	0.10 ppm ^(l)
	8-hour	0.08 ppm ^(e)	0.08 ppm ^(e)	—
PM ₁₀	24-hour	150 µg/m ³ ^(b)	—	150 µg/m ³ ^(l)
	Annual	50 µg/m ³ ^(f)	50 µg/m ³ ^(f)	50 µg/m ³ ^(m)
PM _{2.5}	24-hour	65 µg/m ³ ^(d)	—	—
	Annual	15 µg/m ³ ^(b)	15 µg/m ³ ^(b)	—
Settled Particulates	30-day	—	—	10 g/m ² ⁽ⁿ⁾
Sulfur dioxide	1-hour	—	—	0.50 ppm ^(o)
	3-hour	—	0.5 ppm ^(b)	—
	24-hour	0.14 ppm ^(f)	—	0.10 ppm ^(p)
Lead	Annual	0.03 ppm ^(c)	—	0.02 ppm ^(k)
	90-day	—	—	1.5 µg/m ³ ^(q)
Hydrogen Sulfide	Calendar Quarter	1.5 µg/m ³ ⁽ⁱ⁾	1.5 µg/m ³ ⁽ⁱ⁾	—
Hydrogen Sulfide	1-hour	—	—	0.05 ppm ^(l)
Visibility	Annual	—	—	3 * 10 ⁻⁵ /m ^(k)

Notes:

- (a) The 8-hour ozone standard was promulgated in 1997, and replaces the 1-hour standard in Montana, June 15 2005.
- (b) Federal violation when standard is exceeded more than once in a calendar year.
- (c) Federal violation when annual arithmetic mean concentration for a calendar year exceeds standard.
- (d) Applies only to non-attainment areas designated before July 1997. Montana has none.
- (e) Federal violation when 3-year average of the annual 4th-highest daily maximum 8-hour concentration at any monitor in the area exceeds the standard.
- (f) Federal violation when the expected annual arithmetic mean at any monitor within an area exceeds the standard.
- (g) Federal violation when the 3-year average of the 98th percentile of 24-hour concentration values at each population-oriented monitor within an area exceeds the standard.
- (h) Federal violation when the 3-year average of annual arithmetic means for single or multiple community-oriented monitors in an area exceeds the standard.
- (i) Federal violation when the calendar quarter average result exceeds the standard.
- (j) State violation when standard is exceeded more than once in any 12 consecutive months.
- (k) State violation when arithmetic average over any four consecutive quarters exceeds standard.
- (l) State violation when more than 1 expected exceedance occurs per year, averaged over 3 years.
- (m) State violation when 3-year average of arithmetic means for each year at each site exceeds the standard.
- (n) State violation when the 30-day average result exceeds the standard of 30 grams per square meter.
- (o) State violation when standard is exceeded more than 18 times in any 12 consecutive months.
- (p) State violation when 24-hour rolling average exceeds standard more than once in any 12 consecutive months.
- (q) State violation when the 90-day rolling average concentration exceeds the standard.
- No standard available

Sources: Montana Department of Environmental Quality (MDEQ 2005a)
Environmental Protection Agency (EPA 2005a)

The LHTA is located in a sparsely populated region with a small number of combustion sources. Some PM₁₀ emissions (typically road dust or windblown dust) are likely emitted from the operating limestone mine located adjacent to and within the LHTA, but other significant sources of air pollutants (PM_{2.5}, carbon monoxide, nitrogen dioxide, and ozone) are unlikely to be present in the area because of the limited number of combustion and industrial sources.

MONTANA AIR QUALITY STANDARDS

State and local agencies are permitted to establish air quality standards and regulations of their own under the *Clean Air Act*, provided these state standards are at least as stringent as the federal requirements. The State of Montana has established its own air quality standards called the Montana ambient air quality standards (MAAQS) in which more stringent limits apply for carbon monoxide, nitrogen dioxide, ozone, and sulfur dioxide. In addition, Montana ambient air quality standards include hydrogen sulfide, settled particulate matter, and visibility, which are not regulated by U.S. Environmental Protection Agency's national ambient air quality standards. Montana standards are summarized for comparison to federal standards in Table 3-9. The only Montana ambient air quality standard not an Environmental Protection Agency national ambient air quality standard of concern for LHTA is the settled particulate standard. Settled particulates occur during military training activities at the facility that involve intense vehicle use, creating road dust.

LHTA ATTAINMENT WITH AIR QUALITY STANDARDS

The *Clean Air Act* Amendments of 1990 revised provisions establishing specific goals in order to bring all areas of the U.S. into attainment with national ambient air quality standards and to maintain that status in the future. Those provisions required the U.S. Environmental Protection Agency to classify all areas of the U.S. with respect to each individual criteria pollutant. When individual criteria pollutants within an area meet air quality standards, the area is considered an "attainment" area. When an area does not meet air quality standards, it is referred to as a "nonattainment" area. Title I of the *Clean Air Act* as amended specifies the criteria to be used for attaining and maintaining compliance with the national ambient air quality standards.

Other Regulatory Requirements. Numerous other regulations may apply to large stationary emission sources, depending on the type of source, the emission levels of criteria or hazardous air pollutants, and the location of the facility. These may include complying with new source performance standard requirements and best available control technology when constructing new or modifying existing emission sources, meeting national emission standards for hazardous air pollutants and maximum achievable control technology standards for new or existing facilities, and applicability of the prevention of significant deterioration provisions of the new source review regulations when permitting new or modifying existing sources of air pollutants. For new sources in non-attainment areas, the prevention of significant deterioration provisions of the new source review regulations still apply to those pollutants.

The prevention of significant deterioration regulations also contain special provisions to manage air quality impacts in certain areas, primarily National parks and wilderness areas, which have been designated by the *Clean Air Act* as "Class I" areas. These are areas where visibility has been determined to be an important issue by the Environmental Protection Agency Administrator, in consultation with the Secretary of the Interior. The nearest prevention of significant deterioration mandatory Class I area to the LHTA is the Gates of the Mountains Wilderness Area, approximately 36 miles to the north of the facility. Mandatory Class I areas within 100 miles of the LHTA and the approximate distances to them include:

- Scapegoat Wilderness Area (71 miles);
- Anaconda-Pintler Wilderness Area (77 miles);
- Yellowstone National Park (77 miles); and
- Bob Marshall Wilderness Area (92 miles).

Conformity Rule. Under the General Conformity Rule of the *Clean Air Act*, facilities may not make changes that increase emissions of air pollutants that would:

- cause or contribute to any new violation of a national ambient air quality standards,
- increase the frequency or severity of any existing national ambient air quality standards violation, or
- delay timely attainment of any standard, interim emission reductions, or milestones set forth in a state implementation plan.

3.2.3 CURRENT AIR QUALITY IN THE VICINITY OF THE LHTA

The Montana Department of Environmental Quality does not monitor ambient air pollutant concentrations on or near the LHTA, but routine air quality monitoring occurs at several stations located north, northwest, west, southwest, south, and southeast of the LHTA. These nearby air monitoring stations are located from about 28 miles northwest of the LHTA (Helena) to about 90 miles south of the LHTA (Yellowstone). Other air monitoring stations in Montana are located outside of a 100 mile radius from the LHTA. Monitoring data collected from these stations are available from the Environmental Protection Agency web site for at least the past 10 years. The most recent results, covering the five-year period from 1999 through 2003, are presented in Table 3-10 as the maximum recorded valid result for each calendar year. Those data indicate generally good air quality at most locations although the monitoring data for Butte and East Helena indicate non-attainment with national ambient air quality standards for PM₁₀ and sulfur dioxide plus lead, respectively. The non-attainment status for the East Helena area results from air emissions from a single source of air pollutants, a lead smelter, which was shut down indefinitely in April 2001. The Butte PM₁₀ non-attainment area is probably caused by dust emissions from mining activities near the city.

**TABLE 3-10
SUMMARY OF AIR QUALITY MONITORING DATA**

Air Pollutant (Environmental Protection Agency/State Standard) Monitoring Site	Type of Measurement	Maximum Annual Concentration Units				
		1999	2000	2001	2002	2003
CO (35 / 23 ppm)	1-hour					
Butte - Storm Sewer		7.7	6.3	10.8	6.2	5.5
Great Falls - Skyway Conoco		7.8	6.7	7.4		
Great Falls - Overlook Park		--	--	6.3	7.3	4.8
West Yellowstone - Park Entrance		18.2	17.9	16.0	12.5	8.6
CO (9 / 9 ppm)	8-hour					
Butte - Storm Sewer		4.6	5.0	4.3	3.7	4.0
Great Falls - Skyway Conoco		3.6	4.6	3.9	--	--
Great Falls - Overlook Park		--	--	4.6	3.0	2.9
West Yellowstone - Park Entrance		8.9	6.0	5.4	4.9	2.1
NO ₂ (-- / 30 ppm)	1-hour					
No Monitoring Sites Near LHTA						
Colstrip - Garfield Peak		0.035	0.034	0.053	0.098	--
Missoula - Ducharme and Main		--	--	0.048	0.051	0.052
NO ₂ (0.053 / 0.05 ppm)	8-hour					
No Monitoring Sites Near LHTA						
Colstrip - Garfield Peak		0.003	0.003	0.003	0.004	--
Missoula - Ducharme and Main		--	--	0.012	0.012	0.011
O ₃ (0.12 / 0.10 ppm)	1-hour					
No Monitoring Sites Near LHTA						
Glacier National Park		0.068	0.062	0.057	0.062	0.079
Missoula - Ducharme and Main		--	--	0.064	0.078	--
O ₃ (0.08 / -- ppm)	8-hour					
No Monitoring Sites Near LHTA						
Glacier National Park		0.065	0.059	0.054	0.054	0.065
Missoula - Ducharme and Main		--	--	0.058	0.059	--
SO ₂ (-- / 0.50 ppm)	1-hour					
East Helena - Asarco Water Tank		0.366	0.301	0.164	--	--
East Helena - Asarco Kennedy Pk		0.251	0.220	0.133	--	--
Great Falls - Wire Mill Rd		0.105	0.116	--	--	--
Great Falls - 1301 27 th Ave NE		--	0.101	0.267	0.218	0.257
SO ₂ (0.50 / -- ppm)	3-hour					
East Helena - Asarco Water Tank		0.151	0.153	0.103	--	--
East Helena - Asarco Kennedy Pk		0.111	0.128	0.062	--	--
Great Falls - Wire Mill Rd		0.040	0.041	--	--	--
Great Falls - 1301 27 th Ave NE		--	0.071	0.114	0.095	0.138
SO ₂ (0.14 / 0.10 ppm)	24-hour					
East Helena - Asarco Water Tank		0.031	0.049	0.025	--	--
East Helena - Asarco Kennedy Pk		0.040	0.059	0.028	--	--
Great Falls - Wire Mill Rd		0.012	0.009	--	--	--
Great Falls - 1301 27 th Ave NE		--	0.027	0.057	0.041	0.029

**TABLE 3-10
SUMMARY OF AIR QUALITY MONITORING DATA**

Air Pollutant (Environmental Protection Agency/State Standard) Monitoring Site	Type of Measurement	Maximum Annual Concentration Units				
		1999	2000	2001	2002	2003
SO ₂ (0.03 / 0.02 ppm)	Annual					
East Helena – Asarco Water Tank		0.005	0.005	0.003	--	--
East Helena – Asarco Kennedy Pk		0.006	0.009	0.005	--	--
Great Falls – Wire Mill Rd		0.003	0.003	--	--	--
Great Falls – 1301 27 th Ave NE		--	0.004	0.006	0.004	0.005
PM ₁₀ (150 / 150 µg/m ³)	24-hour					
Belgrade – Conagra #1		70	65	75	53	64
Belgrade – Conagra #2		--	--	--	47	58
Bozeman – N. Rouse		51	46	51	31	
Butte – Greely School		--	--	--	--	49
Helena – Lincoln School #1		47	44	60	63	61
Helena – Lincoln School #3		78	88	84	56	83
Helena – Lincoln 1 st Bank #1		133	60	73	--	--
Helena – Lincoln 1 st Bank #2		--	--	64	57	--
Helena – Rossiter School		37	49	52	41	66
West Yellowstone – Firehole		67	50	66	38	68
PM ₁₀ (50 / 50 µg/m ³)	Annual					
Belgrade – Conagra #1		25	25	28	24	26
Belgrade – Conagra #2		--	--	--	23	24
Bozeman – N. Rouse		19	19	22	19	--
Butte – Greely School		--	--	--	--	16
Helena – Lincoln School #1		16	19	23	21	23
Helena – Lincoln School #3		19	19	22	19	18
Helena – Lincoln 1 st Bank #1		25	25	24	--	--
Helena – Lincoln 1 st Bank #2		--	--	24	22	--
Helena – Rossiter School		15	19	20	16	17
West Yellowstone – Firehole		18	17	18	15	16
PM _{2.5} (65 / -- µg/m ³)	24-hour					
Belgrade – Conagra		--	38	36	32	23
Butte – Greely School		38	34	37	31	39
Great Falls – High School		--	39	33	19	26
Helena – Lincoln School		23	32	45	37	19
Helena – Lincoln 1 st Bank		--	--	29	45	29
West Yellowstone – Park Entrance		--	--	--	--	5
PM _{2.5} (15 / -- µg/m ³)	Annual					
Belgrade – Conagra		--	9.8	8.9	7.4	8.1
Butte – Greely School		7.3	9.9	7.0	6.8	8.3
Great Falls – High School		--	6.1	5.4	5.3	6.0
Helena – Lincoln School		6.3	8.7	8.7	6.5	6.8
Helena – Lincoln 1 st Bank		--	--	8.8	11.1	5.2
West Yellowstone – Park Entrance		--	--	--	--	2.4
Lead (– / -- µg/m ³)	24-hour					
East Helena – Asarco Kennedy Pk		1.79	1.71	--	--	--
East Helena – Pacific and Morton		3.46	5.35	--	--	--
East Helena – Dartman Field		1.14	--	--	--	--
East Helena – Old RR at Hwy 518		1.94	1.11	0.53	--	--
East Helena – Prickly Pear Cr. 21 E		3.32	3.68	6.28	--	--

**TABLE 3-10
SUMMARY OF AIR QUALITY MONITORING DATA**

Air Pollutant (Environmental Protection Agency/State Standard) Monitoring Site	Type of Measurement	Maximum Annual Concentration Units				
		1999	2000	2001	2002	2003
Lead (1.5 / 1.5 $\mu\text{g}/\text{m}^3$)	Quarterly					
East Helena – Asarco Kennedy Pk		1.06	0.64	--	--	--
East Helena – Pacific and Morton		1.12	0.98	--	--	--
East Helena – Dartman Field		0.71	--	--	--	--
East Helena – Old RR at Hwy 518		0.34	0.42	0.26	--	--
East Helena – Prickly Pear Cr. 21 E		0.97	0.91	1.02	--	--

Notes:

- CO Carbon monoxide
- NO₂ Nitrogen dioxide
- O₃ Ozone
- PM₁₀ Particulate matter less than 10 micrometers in diameter
- PM_{2.5} Particulate matter less than 2.5 micrometers in diameter
- ppm Parts per million
- SO₂ Sulfur dioxide
- $\mu\text{g}/\text{m}^3$ Micrograms per cubic meter
- Information not available

Sources: MDEQ 2005b; EPA 2005b

Broadwater County is designated as an attainment county for all criteria air pollutants. Several areas in the surrounding counties (within approximately 100 miles) are listed as non-attainment for one or more pollutants. Butte (Silver Bow County), which is about 45 miles west-southwest of the LHTA, is classified as a moderate non-attainment area for PM₁₀. East Helena, located about 25 miles north-northwest of the LHTA is classified as non-attainment for both lead and the primary and secondary standards for SO₂. Other areas, including all or parts of Flathead, Lake, Lincoln, Missoula, Rosebud, Sanders, and Yellowstone counties are designated non-attainment for one or more pollutants, but all are more than 100 miles from the LHTA and beyond this project's region of influence.

The LHTA includes about 33.6 square miles of land located within Broadwater County in southwestern Montana. The facility is approximately 30 miles southeast of Helena and immediately southwest of Townsend. This area is sparsely populated (population of 4,385 in Broadwater County and 1,867 in Townsend). The Environmental Protection Agency designations for the State of Montana were reviewed to determine the attainment status of Broadwater County and to identify any nearby non-attainment areas for all criteria pollutants. This review indicated that Broadwater County is an attainment area for all criteria pollutants and will be in attainment with the 8-hour ozone standard when those determinations are made. Ambient air monitoring locations nearest to the LHTA site are in Helena and Belgrade.

EXISTING AIR QUALITY EMISSIONS FROM ACTIVITIES AT THE LHTA

Activities at the LHTA do not constitute a major source of air emissions as defined by the U.S. Environmental Protection Agency or the Montana Department of Environmental Quality. Emissions from the LHTA are primarily comprised of releases from numerous minor individual emission sources. Generally, emissions from point sources at LHTA are limited to combustion gases from small comfort heaters, cooking facilities, water heaters, and generator sets along with volatile organic compound emissions from fuel storage tanks. Most of the air pollutant emissions at this facility are from mobile sources, which are used in or provide support to the training activities. These mobile source emissions include exhaust gases from the vehicle engines and fugitive dust disturbed as the mobile sources traverse roads and trails throughout the LHTA. Because total emissions, including mobile source air toxics, from all regulated sources at the LHTA do not exceed the major source threshold for any listed air pollutant, the facility is not required to have an air permit for its operations.

As mentioned above, the majority of the point source emissions at this facility arise from small combustion sources, including portable generators, and from fuel storage and transfer activities. Most vehicles at this facility are diesel-fueled, so emissions during fuel storage and transfer are minimal. Other emissions at the site arise from the mobile sources and are not readily measured nor are they quantified and reported in any manner.

3.2.4 NOISE

Noise is generally defined as unwanted sound, and can be intermittent or continuous, steady or impulsive, stationary or transient. Physical characteristics of noise include intensity, frequency, and duration. Noise can impact humans by interfering with normal activities or diminishing the quality of the environment. Response to noise is subjective, and therefore, it can vary from person to person.

Noise levels are quantified using units of decibels (dB). Humans typically have reduced hearing sensitivity at low frequencies compared with their response at high frequencies. The "A-weighting" of noise levels, or A-weighted decibels (dBA), closely correlates to the frequency response of normal human hearing (1,000 to 4,000 hertz). By utilizing A-weighted noise levels in an environmental study, a person's response to noise can typically be assessed. However, large amplitude impulsive sounds, such as explosions and large caliber weapons noise (larger than 20 millimeter [mm]) are measured using the "C-weighted" scale, or C-weighted decibels (dBC), which gives equal emphasis to sounds of most frequencies. Because decibels are logarithmic values, the combined noise level of two 50 dBA noise sources would be 53 dBA, not 100 dBA.

The day-night average noise level is a single number descriptor that represents the constantly varying sound level during a continuous 24-hour period. The day-night average noise level includes a 10 decibel penalty that is added to noises that occur during the nighttime hours between 10:00 p.m. and 7:00 a.m., to account for people's higher sensitivity to noise at night when the background noise level is typically low. Noise metrics include the A-weighted day-night average sound level (ADNL) and C-weighted day-

night average sound level (CDNL). The CDNL is used to describe blast noise from weapon systems larger than 20 mm, and ADNL is used to describe noise in all other cases.

The ambient noise at a receptor location in a given environment is the all-encompassing sound associated with that environment, and is due to the combination of noise sources from many directions, near and far, including the noise source of interest. Traveling from a noise source to a receptor in an outdoor environment, noise levels decrease as the distance increases between the source and receptor. Noise levels typically decrease by approximately 6 dBA every time the distance between the source and receptor is doubled, depending on the characteristics of the source and the conditions over the path that the noise travels. The reduction in noise levels can be increased if a solid barrier, such as a man-made wall, a building, or natural topography, is located between the source and receptor.

NOISE GUIDELINES AND REGION OF INFLUENCE

The *Noise Control Act* of 1972 established a national policy to promote an environment free from noise that "presents danger to the health and welfare of this Nation's population" (*Public Law 92-574* 1972). The *Quiet Communities Act* of 1978 also outlined responsibilities of federal agencies to protect the public from unreasonable noise impacts (*Public Law 95-609* 1978). The Department of the Army has developed an environmental noise management program that considers noise from all sources of military activities (Army 1997), and an *Installation Environmental Noise Management Plan* for the LHTA was developed in January 2003 (U.S. Army Center for Health Promotion and Preventive Medicine [USACHPPM] 2003).

To assess noise effects, the Army defines three noise zones and two buffer zones for consideration in land use planning:

- Zone I, where few people would be bothered by noise, is compatible for most noise-sensitive land uses, and unrestricted land use is indicated;
- Zone II, where outdoor noise levels increase and more people become annoyed at the noise, is normally incompatible for noise-sensitive land uses and restrictions are placed on certain land uses (for example, residential development); and
- Zone III, where noise levels escalate, is incompatible for noise-sensitive land uses.

For LHTA, the two buffer zones include (1) the land use planning zone, which consists of a portion of Zone I and is 5 decibels wide extending outward from Zone II, and (2) the zone of influence, defined by the Army as a 1.6 kilometer (1 mile) wide strip around the current LHTA boundary (USACHPPM 2003). The noise zones are summarized in Table 3-11.

TABLE 3-11 ARMY NOISE LAND USE PLANNING GUIDELINES		
Noise Zone	Noise Limits	
	ADNL (dBA)	CDNL (dBC)
I	< 65	< 62
II	65 to 75	62 to 70
III	> 75	> 70

Source: USACHPPM 2003

Notes:

ADNL	A-weighted day-night average noise level
CDNL	C-weighted day-night average noise level
dBA	A-weighted decibels
dBC	C-weighted decibels
<	Less than
>	Greater than

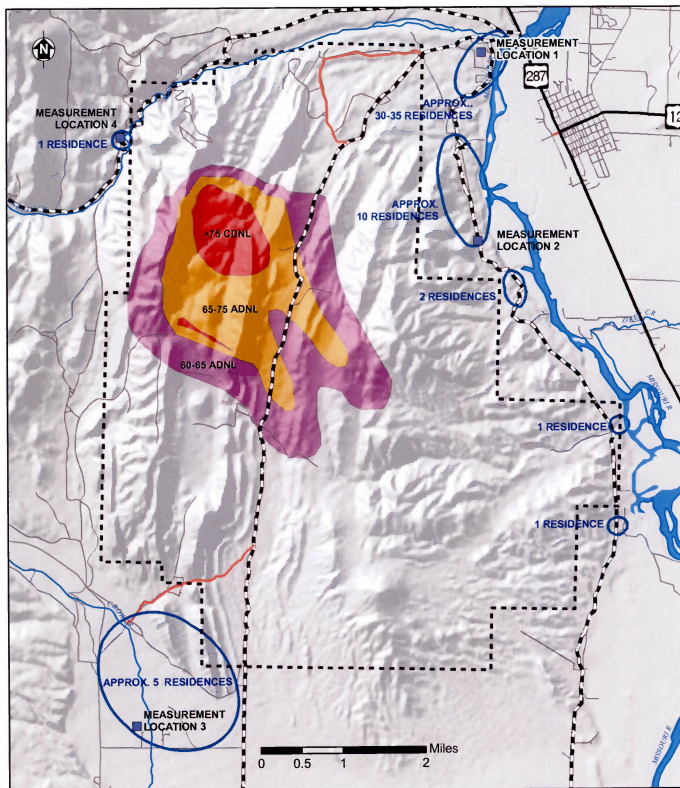
EXISTING NOISE SOURCES AT LHTA

To help determine the impact of noise associated with the LHTA, noise-sensitive receptors were identified within the region of influence. Receptor locations were identified using topographic maps and site observations. Approximately 55 single-family residences are located within 1 mile of the current LHTA boundary, primarily along River, Toma, and Indian Creek Roads (Figures 3-4 and 3-5). Other noise sensitive receptors include wildlife that live, forage, and pass through the LHTA and the 1-mile zone of influence.

The weapons and explosives used at LHTA create impulsive noise, including detonations at impact points, ordnance firing points, and the small arms ranges. In most instances, the noise is sporadic and localized to specific training areas located west of Old Woman's Grave Road.

BACKGROUND NOISE

To help determine the general existing ambient noise levels in the 1-mile zone of influence during periods when the LHTA is not being used, Big Sky Acoustics, LLC took four noise level measurements in June 2004 near the residence locations (Figures 3-4 and 3-5). The measurements were used to determine the general ambient noise level conditions at the residences. The day-night average noise levels at the residences were estimated based on measured noise assessment data (Federal Transit Administration 1995) and are summarized in Table 3-12. The measured ambient noise levels are typical for rural areas (Acoustical Society of America 1998).



Legend

- Existing LHTA Boundary
- US Highway
- County Roads
- Gravel, Unimproved Road
- Other Access Road

Approx. = Approximately

- Noise Measurement Locations
- Noise Receptor Locations

Small Arms Noise Contours

Intensity

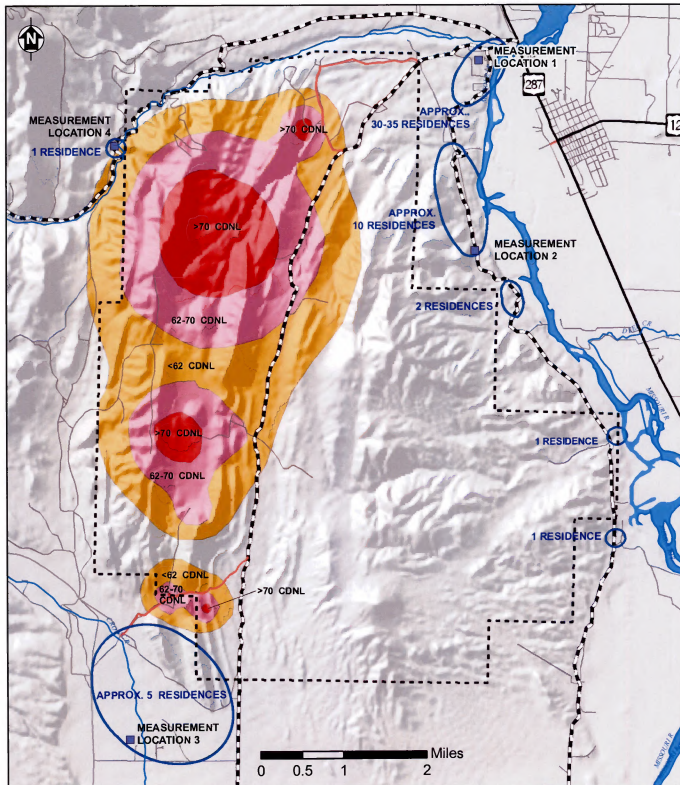
- 60-65 ADNL - Land Use Planning Zone (Zone I)
- 65-75 ADNL - ZONE II
- >75 ADNL - ZONE III

ADNL = A-Weighted day-night average sound level



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

**FIGURE 3-4
SMALL ARMS NOISE CONTOURS
IN AND NEAR THE LHTA**



Legend

- Existing LHTA Boundary
- US Highway
- County Roads
- Gravel, Unimproved Road
- Other Access Road

Approx. = Approximately

- Noise Measurement Locations
- Noise Receptor Locations

Large Weapons Noise Contours

Intensity

- <62 CDNL - Land Use Planning Zone (Zone I)
- 62-70 CDNL - ZONE II
- >70 CDNL - ZONE III

CDNL = C-Weighted day-night average sound level



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

**FIGURE 3-5
LARGE CALIBER WEAPON
NOISE CONTOURS
IN AND NEAR THE LHTA**

**TABLE 3-12
ESTIMATED EXISTING AMBIENT NOISE LEVELS
WITHOUT LHTA TRAINING ACTIVITIES**

Measurement Location	Estimated ADNL (dBA)	Estimated CDNL (dBC)
1	39.2	56.4
2	41.7	55.7
3	30.0	55.2
4	40.4	53.0

Notes:

ADNL	A-weighted day-night average noise level
CDNL	C-weighted day-night average noise level
dBA	A-weighted decibels
dBC	C-weighted decibels

SMALL ARMS RANGE NOISE

MTARNG small arms ranges are located along the northwest side of LHTA, west of Old Woman's Grave Road. Primary activities include marksmanship training, and zeroing and corrective instruction of M16 rifles and machine guns. The size of the munitions range from a .22 caliber long rifle up to a 7.62 millimeter ball. The Army developed noise contours for small arms activities using its small arms range noise assessment model based on day and night operational data for the LHTA range (USACHPPM 2003). The noise contours and the land use planning zone are shown on Figure 3-4. Noise Zone III (greater than 75 ADNL), Zone II (65 to 75 ADNL), and the land use planning zone (60-65 ADNL), do not extend beyond the current LHTA boundary. The land contained within the zones is used for training, which is compatible with the noise environment. Although the small arms range noise contours are within the LHTA boundary, the low ambient noise levels shown in Table 3-12 indicate that the firing noise would still be audible within the 1-mile zone of influence.

LARGE CALIBER WEAPON SYSTEMS AND EXPLOSIVE DETONATION NOISE

MTARNG large caliber and explosive ranges are located in the north, south, and southwest portions of LHTA, west of Old Woman's Grave Road. The primary noise producers are listed in Table 3-13.

**TABLE 3-13
LHTA LARGE CALIBER WEAPON AND EXPLOSIVE NOISE**

Range/Location	Weapons/Explosives	Description
Lemieux Multi-Purpose Training Range	M1A1 Abrams Main Battle Tank, M2A2 Bradley Fighting Vehicle, Wallentine Inbore Device, Telefire Subcaliber Device	Seven points, four stab lanes, stationary and moving targets
Northern portion of LHTA	Grenades (40 mm)	Fired at two points at Static E-type Silhouette targets, and live hand grenade high explosive range
Southern portion of LHTA	Ammunition: 60 mm, 4.2 inch, and 120 mm high explosive/illumination ordnance	Mortar indirect fire, nine firing points
Southwest portion of LHTA	4 pounds of trinitrotoluene (TNT)	Explosive detonations

Notes:

LHTA Limestone Hills Training Area
mm millimeter

Source: USACHPPM 2003

The Department of the Army developed noise contours for the large caliber and explosive activities using its Blast Noise (B NOISE) model based on day and night operational data for the LHTA range. The noise contours and the land use planning zone are shown on Figure 3-5. Noise Zone III (greater than 70 CDNL) does not extend beyond the current LHTA boundary, and the land is used for training, which is compatible with the noise environment and guidelines. Zone II (62-70 CDNL) and the land use planning zone (less than 62 CDNL) slightly extend beyond the current LHTA west and southwest boundaries, but are within the zone of influence (USACHPPM 2003). Although the large caliber and explosive noise contours are generally within the LHTA boundary, the low ambient noise levels shown in Table 3-12 indicate that the noises would still be audible within the 1-mile zone of influence.

3.3 GEOLOGY, MINERALS, AND PALEONTOLOGY

This section provides a detailed description of the geology and current mining operations in the vicinity of and within the LHTA. The geology study area includes all land within the existing LHTA boundary and areas immediately adjacent to the training area.

PHYSIOGRAPHY

The LHTA is located in the Northern Rocky Mountains physiographic province, a region that includes all of western Montana and northern Idaho. The project area includes two distinct physiographic areas located in the folded, sedimentary foothills of the eastern slopes of the Elkhorn Mountains. These areas include: a series of long, linear, north-south trending ridges called the Limestone Hills to the west (Figure 2-6); and an area of steep-sided, smooth, and rounded hills of the western Townsend Valley that borders the Missouri River to the east. Elevation varies between 3,800 feet along the Missouri River and 5,900 feet along the highest ridges of the Limestone Hills. Indian Creek and Crow Creek are the only perennial streams within or adjacent to the LHTA (Figure 3-2).

GEOLOGIC STRUCTURE

The Limestone Hills project area occurs within a regional tectonic province called the Northern Cordilleran overthrust belt where older rocks have been intensely folded, faulted, and thrust faulted into imbricated layers of locally very complex structure. The Limestone Hills occur as the upper plate of the Lombard thrust that can be traced regionally from Three Forks through Lombard, Montana, and is believed to join thrust faulting on the west slopes of the Big Belt Mountains, east of Canyon Ferry Reservoir. In the vicinity of the project area, structure is relatively uncomplicated and consists of a series of rugged, massive, north/south-trending limestone and sandstone ridges (Figure 2-2) along the western flank of a broad, northward plunging anticlinal fold (Figure 3-6a). Figure 3-6a is a geologic map with Figure 3-6b consisting of a geologic features legend. Figure 3-7a present geologic cross-sections of the mineralized limestone units within the project area. Northwest-trending, high-angle normal faulting has offset the sedimentary units in the folded structure (Figures 3-6a and b, and 3-7a and b). The fault located along Indian Creek is one of the more prominent of these faults.

LITHOLOGY

Rocks in the project area consist of approximately 13,000 feet of sedimentary rocks, ranging in age from Precambrian (greater than 550 million years ago) to Tertiary (1.6 to 65 million years ago). A generalized stratigraphic section for the LHTA region is presented in Table 3-14. This sequence includes the Madison Group, which is a significant limestone resource in the project area. The sedimentary rocks are overlain by a 10,000 to 15,000 foot thick sequence of Elkhorn Mountain Volcanics (andesite porphyry and breccias, Figure 3-6a and b).

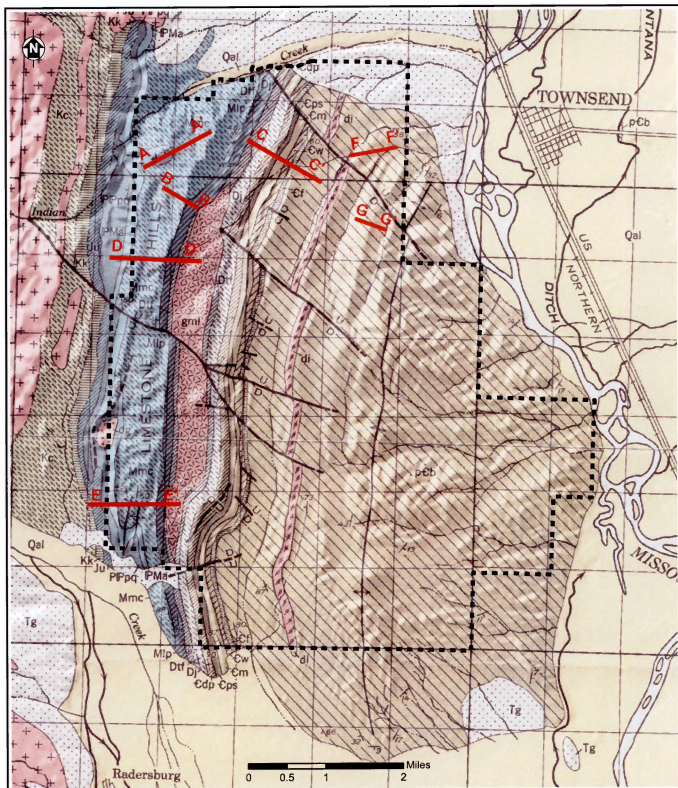
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Legend

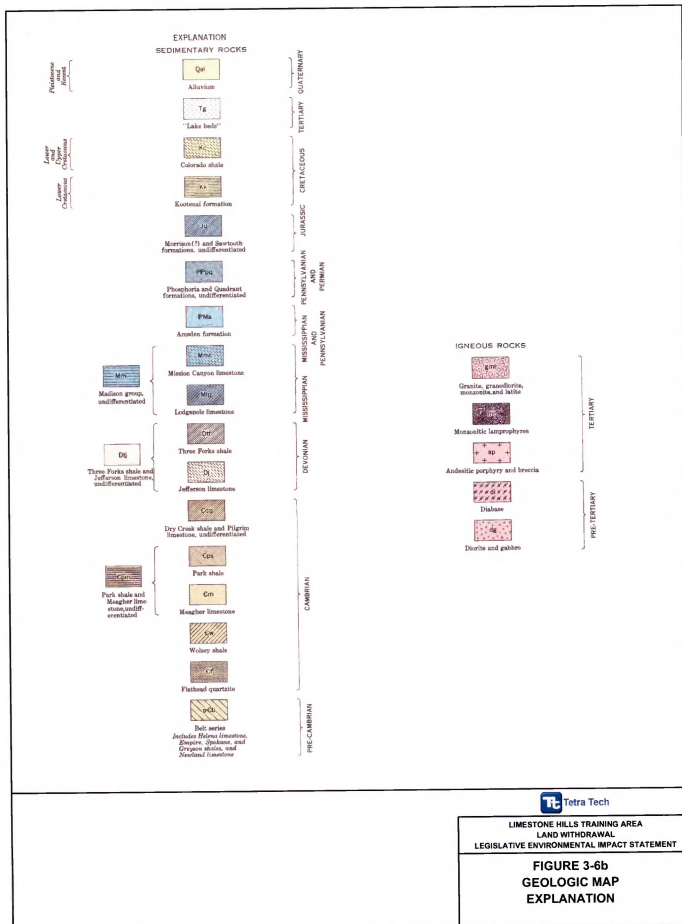
- Existing LHTA Right-of-Way Boundary
- Cross Section Lines for Figures 3-7a and 3-7b

For Geologic legend, see Figure 3-6b



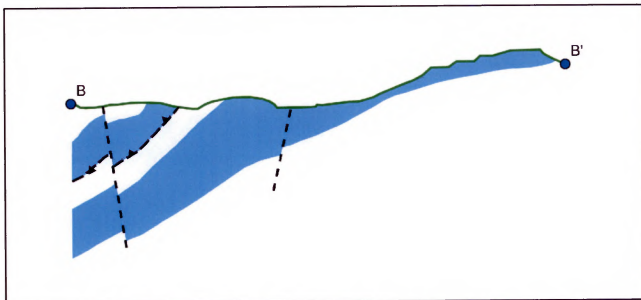
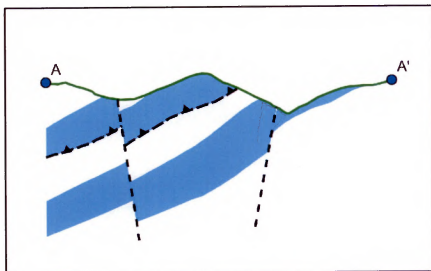
LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3-6a
GEOLOGIC MAP
OF THE LIMESTONE HILLS
TRAINING AREA



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3-6b
GEOLOGIC MAP
EXPLANATION



Note: Cross-Sections A-A' and B-B' are modified from 1995 cross-sections by R. Seklemian
Topography has been modified by mining activities since that time.

Legend

- High-Calcium Limestone
- Normal Fault
- Thrust Fault (teeth on hanging wall)
- Topographic Surface

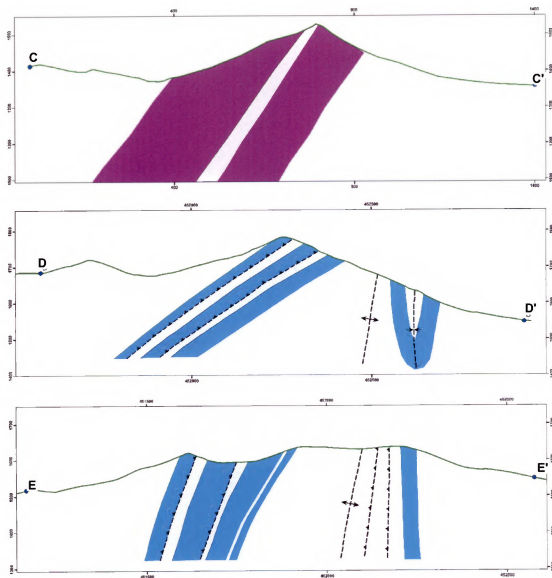
0 25 50 100 150 200 Meters

Note: See Figure 3-6a
for locations of cross-sections.



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3-7a
SIMPLIFIED CROSS-SECTIONS
A-A' AND B-B'
OF MINERALIZED LIMESTONE



Legend

- High-Calcium Limestone
- Dolomite
- - - Anticline Hinge
- - - Syncline Hinge
- - - Thrust Fault (beds on hanging wall)
- Surface Topography

0 50 100 200 300 400 500 Meters

Note: See Figure 3-6a for locations of cross-sections.



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3-7b
SIMPLIFIED CROSS-SECTIONS
C-C', D-D', and E-E'
OF MINERALIZED LIMESTONE

**TABLE 3-14
STRATIGRAPHIC SECTION OF THE LHFA**

ERA	PERIOD	FORMATION	SYMBOL	THICKNESS	DESCRIPTION	FOSSIL INVENTORY
CENOZOIC	QUATERNARY	Alluvium	Qal	unknown	Alluvial sand & gravel	Sparse fossils <i>Bison</i> & associated vertebrates
	TERTIARY	UNCONFORMITY				
		Oligocene tuff	Tg	0-1000'	Rhyolite sedimentary tuff	Sparse fossils: scraps of bones, teeth
MESOZOIC	CRETACEOUS	Eikhorn Mtns. Volcanics	Kv	8000'	Andesitic breccia	Unfossiliferous
		Slim Sam Formation	Kc	650-1150'	Crystal-lithic tuff & black shale	Sparse fossils: carbonized & silicified wood & marine bivalves
		Colorado Formation	Kc	1150-1500'	Black shale, sandstone, & siltstone	Moderately fossiliferous: marine bivalves, marine cephalopods
		Kootenai Formation	Kk	445-529'	Sandstone, conglomerate, siltstone, and fossiliferous limestone	Sparse fossils: non-marine gastropods
	JURASSIC	Morrison Formation	Ju	425-550'	Shale, mudstone, siltstone, limestone & sandstone	Unfossiliferous
		Swift Formation	Ju	15-30'	Sandstone and conglomerate	Sparse fossils: local concentrations of marine bivalves
PALEOZOIC	UNCONFORMITY					
	PENNSYLVANIAN	Quadrant Formation	Ppq	325'	Quartzite and cherty dolomite	Unfossiliferous
	MISSISSIPPIAN	Amsden Formation and Big Snowy Group	Pma	55'	Red calcareous siltstone, limestone & dolomite	Sparse fossils: marine brachiopods, bryozoans, & echinoderms
		Mission Canyon Limestone	Mmc	1100'	Fine- to coarse-grained, massive limestone	Disseminated and fragmented fossils: marine brachiopods, bryozoans, & echinoderms
		Lodgepole Limestone	Mlp	600-650'	Fossiliferous limestone, thin-to medium-bedded	Disseminated & fragmented fossils: marine brachiopods, bryozoans, & echinoderms
	DEVONIAN	Three Forks Shale	Dtf	360'	Shale, siltstone & limestone	Sparse fossils: marine brachiopods, cephalopods, bryozoans, crinoids, & other fossil forms
		Jefferson Dolomite	Dj	350'	Dolomite and limestone	Sparse fossils: marine coelenterates and sponges (?)
	SILURIAN ORDOVICIAN	Maywood Formation	Dj	40-60'	Limestone and dolomite	Unfossiliferous
	UNCONFORMITY					
	CAMBRIAN	Red Lion Formation	Cdp	35-50'	Siltstone and dolomite	Sparse fossils: marine brachiopods
		Pilgrim Dolomite	Cdp	420'	Mottled limestone and dolomite	Sparse fossils: marine trilobites
		Park Shale	Cps	200-250'	Fissile shale	Unfossiliferous
		Meagher Limestone	Cm	500'	Mottled and banded limestone & dolomite	Unfossiliferous
		Wolsey Shale	Cw	380'	Shale and siltstone, limestone near top, quartzite at base	Sparse fossils: trilobite fragments
		Flathead Sandstone	Cf	100-120'	Quartzite with a few thin beds of shale & siltstone	Unfossiliferous
PRE-CAMBRIAN	BELT SUPERGROUP	Empire Shale	PCb	0-160'	Shale, quartzite, argillite & algal limestone	Unfossiliferous
		Spokane Shale	PCb	4000-5000'	Shale, quartzite, argillite & algal limestone	Unfossiliferous
		Greyson Shale	PCb	2500-3000'	Shale, quartzite, argillite & algal limestone	Unfossiliferous except for a few algal limestone beds near top

Source: modified from Freeman *et al.* 1958, Klepper *et al.* 1971; Davis *et al.* 1980

Tertiary and Quaternary volcanic tuffs, alluvial channel and fan deposits, and colluvial sands and gravels overlie the Elkhorn Mountain Volcanics and the underlying sedimentary rocks. The distribution of sedimentary and volcanic rocks is depicted in Figure 3-6 a and b.

Intrusive rocks in the project area consist of diabase sills in the Precambrian Spokane shale, a large north-south trending mass of granodiorite porphyry as an interformational sill in the Devonian Three Forks formation, and a small stock of porphyritic syenodiorite cutting the Paleozoic Quadrant and Amsden formations (Figures 3-6a and b). Dioritic sills and dikes intrude older stratigraphic units and are genetically related to the emplacement of the Elkhorn Mountain Volcanics. Crosscutting relationships of intrusive and sedimentary rocks are depicted in Figure 3-6a and b.

GEOLOGIC HISTORY

The early geologic history of the area is characterized by dominantly marine sedimentation from the PreCambrian to Cretaceous periods (500 to 65 million years ago). Elkhorn Mountain Volcanics were deposited over this sedimentary sequence and their deposition was followed by regional compression of the Laramide Orogeny (mountain building event). The Laramide event culminated in large regional thrust-faulting of the sedimentary sequence and produced north-south-trending folds and northwest-trending high-angle faults within the project area. Sedimentary deposits of water-lain volcanic tuffs, alluvial channel and fan deposits, and overlying colluvial sands and gravels (Table 3-14) were deposited following the Laramide event during both the Tertiary and Quaternary periods.

MINERAL RESOURCES

Limestone is the most valuable mineral resource in the Limestone Hills project area and continues to be mined at present. Other mineral resources explored for and exploited in the past include gold from placer deposits (principally along Indian Creek), marble for use as building stone from the Meagher (limestone) Formation, and quartzite from the Flathead sandstone formation that was mined for use in concrete manufacturing. Deposits of other non-metallic minerals exist in the LHTA including bentonite, lignite, and dolomite. A map showing all mineral resources within the LHTA is included in the Mineral Occurrence Report (Kirk 2006).

Limestone is mined from the Mission Canyon member of the Madison Group and consists of a thick, very fine-grained, and pure micritic (porcelain-like texture) limestone. The mineable limestone bed averages approximately 120 feet thick (Figures 3-7a and b) in the vicinity of the existing mining operation and is overlain and underlain by cherty dolomitic limestones.

Hydrothermal fluids, related to volcanism that deposited the Elkhorn Mountain Volcanics, have locally altered the sedimentary units along bedding planes, fractures, and faults in the Limestone Hills area during the Cretaceous period. Where affected by hydrothermal alteration and silicification, the micritic Mission Canyon member is unsuitable for mining.

Under rights granted by the General Mining Law (May 1872), a claimant by the staking of a claim acquires the right of possession (by assertion) for the exclusive purposes of exploration, extraction and development of a mineral deposit. Pursuit of these rights must still meet permitting requirements and other relevant state and federal environmental laws.

CURRENT MINING OPERATIONS

Graymont Western U.S. Inc. (Graymont) currently operates both the Indian Creek Mine and processing plant, which are located in the Limestone Hills about 4.5 miles west of Townsend in Broadwater County, Montana (Figures 1-1, 2-1 and 2-2). The Indian Creek Mine has been in continuous operation since early 1981 when Continental Lime, Inc. (Continental) began mining a thick, very fine-grained, pure limestone bed in the Mission Canyon Limestone to produce both lime and hydrated lime. Production since 1981 has included the mining of about 18 million tons of limestone (ore and overburden) for a calculated mining rate of about 750,000 tons per year. Graymont's current mining rate at the Indian Creek Mine is about 1,000,000 tons per year (2,800 tons per day). The operator changed its name in June 2000 to Graymont Western US, Inc.

A detailed description of mineral occurrence and potential in the LHTA, and an economic evaluation of Graymont's holdings is included in the LHTA Mineral Occurrence Report (Kirk 2006).

Mining Permits, Claims and Land Status

The Indian Creek Mine is developed on both BLM and private land, largely within, but also in part adjacent to the LHTA (Figure 2-1). The mine is operated under Operating Permit #00105 issued by the State of Montana Department of Environmental Quality under the *Metal Mine Reclamation Act*, and under a plan of operations filed with and approved by the BLM. The operating permit has undergone a number of amendments to the original operating plan since 1981.

When applying for an operating permit the applicant designates an area with boundaries, within which all of its mining related activities and surface disturbances will take place. That area is referred to as the Mine Permit Area (Figure 2-1). Mining operations are currently planned and permitted over an area about a mile and a half wide and extending about three miles south of Indian Creek on fee lands and federal lands administered by the BLM. The Indian Creek Mine's permit area is located in portions of Township 7 North, Range 1 East, Sections 28, 29, 32, 33 and Township 6 North, Range 1 East, Sections 4, 5, 8, 9, 16, and 17 (Figure 2-1). The existing mine permit area encompasses an area of 1,735 acres, of which approximately 757 acres are permitted for surface disturbance. Only about 305 acres are currently disturbed. Elevations within the proposed mine permit area range between 4,800 and 5,900 feet (Figure 3-2).

Graymont owns or controls a number of patented mining claims and has staked a number of unpatented mining claims located on BLM-administered federal lands within the LHTA. Unpatented mining claims include 184 lode mining claims, 161 placer mining claims, and 27 mill site claims 14 of which are

patented. Lode mining claims are generally staked as parallelograms, 1,500 feet by 600 feet in size and enclose approximately 20 acres (Figures 2-5a and b). Mill site claims are usually staked as squares and include approximately 5 acres each. Under rights granted by the *General Mining Law* (May 1872) the claimant by the staking of a claim acquires the rights of possession (by assertion) of a portion of the available federal mineral lands containing a valuable mineral for the exclusive purposes of exploration, extraction, and development of a mineral deposit. Pursuit of these rights must still meet permitting requirements and other relevant state and federal environmental laws.

At the northern end of the LHTA Graymont has 161 unpatented placer claims located over both limestone and dolomite outcrops (Figure 2-5a). Although the color scheme on Figure 2-5a was not developed for this purpose, green and yellow claims are located over limestone outcrops and the red claims are located over dolomite outcrops. In addition, Graymont has 23 unpatented mill site claims, and 4 patented mill site claims located within and immediately adjacent to this northern portion of the LHTA. Mill sites are staked in order to provide construction sites for plant and other physical facility required by mining. Mill site claims are typically not mineralized.

Other unpatented lode mining claim holdings staked by Graymont are shown on Figure 2-5a and b. These claims can be broken into three groups. One group is an isolated block of 20 lode mining claims located in the north-central portion of the LHTA (Figure 2-5b). A second set of 102 lode mining claims occur to the west and southwest of the first block, within and adjacent to the mine permit area designated by the blue line on Figure 2-5b. A third area south of the existing mine permit area contains an additional 62 lode mining claims. These latter claims were recently staked (since 2003) for exploration purposes and occur along a north-south trending set of limestone ridges (Figure 2-5b). These ridges are formed by outcrops of the Mission Canyon member where it is topographically exposed in a favorable open-pit mining configuration. Recent exploration activities by Graymont included geologic mapping, sampling, and most recently the exploration drilling of 12 to 15 permitted drill holes.

Graymont has also acquired approximately 640 acres of fee land outside of, but adjacent and to the west of the LHTA.

In February of 2006, Graymont submitted an application for an amendment to its Operating Permit 00105 (Resource Management Associates 2006) to the MDEQ and the BLM for a proposed quarry expansion to mine additional limestone and dolomite resources on BLM land within the LHTA. If this amendment is approved, it could authorize additional mining within this recently staked southern claim block or elsewhere within Graymont's holdings within, or in the immediate vicinity of the LHTA.



West Dolomite Ridges in the LHTA (looking southeast)



Mission Canyon Limestone, LHTA

Mission Canyon Limestone in the Indian Creek Mine Area

At the Indian Creek Mine, limestone is mined from a thick, massive, and particularly pure, micritic (very fine-grained or porcelain-like textured) limestone bed within the upper part of the Mission Canyon Formation. The thickness of the mineable micritic limestone bed ranges from 100 to 160 feet and averages about 120 feet in the vicinity of the existing mine.

In the LHTA, the Mission Canyon Formation is exposed along the crest of a north-trending ridge that is resistant to erosion. This ridge crops out along the west limb of a large north plunging anticlinal fold (Figures 3-6a and b). The position of the Mission Canyon limestone with respect to the fold axis and its resistance to erosion has caused the limestone outcrops to have steep, east-facing, erosional slopes (Figures 3-7a and b, cross-sections A-A' and D-D'). The area along the crest of the ridge and down the less steep, west-facing dip-slope (slope that is formed by the structural dip of the erosionally resistant limestone beds) has been eroded such that only a relatively thin cover of sediments or overburden overlies the micritic limestone bed. This provides a favorable configuration for open pit mining or quarrying with relatively low overburden stripping ratios (Figures 3-7a and b). Steeply-dipping, northwest-trending faults offset the limestone beds and locally change the thickness of overburden associated with the micrite (Figure 3-6a and b). In other places the mineable portion of the Mission Canyon is repeated (imbricated or stacked up) along high angle faults (Figure 3-7b, cross-sections D-D' and E-E').

In Cretaceous times (about 65 million years ago), the Elkhorn Mountain Volcanics were extruded and various intrusives dikes and sills were emplaced into older stratigraphic units throughout the LHTA. Hydrothermal fluids rich in calcium, magnesium, and silica (related to the emplacement of these volcanics) migrated along bedding planes and fault structures that cross-cut the sedimentary units. In places, alteration by these hydrothermal fluids has produced irregular zones of marble and calcium-silicate mineral alteration along bedding planes, faults and fractures that locally make the micritic limestone bed unsuitable for the production of high quality lime. These irregular areas of alteration are left as islands of waste within the open pits and quarries of the limestone mine, or are alternatively mined and placed on overburden piles.

One criteria developed by Graymont for limestone deposits within the LHTA require the evaluation of three components: (1) chemistry (carbonate [CaCO_3] contents preferably greater than 97 percent, or greater than 92 percent with low silica and low manganese contents), (2) crystallography (rock texture and crystallinity such that limestone does not disintegrate into small dust-sized particles in the kiln), and (3) the occurrence of the limestone in a geometrically mineable configuration (strip ratios less than 1:1, preferably less than 0.5:1).

Mining Operations

At the Indian Creek Mine, Graymont mines limestone in a series of open pits that are sequentially developed and expand southward from its processing plant (Figure 2-1 and 2-2). Graymont's current

mining rate at the Indian Creek Mine is about 1,000,000 tons per year (2,800 tons per day). Graymont's exploration and mining operations use standard exploration and open pit mining practices that generally include the following tasks.

- Mapping, sampling and exploration drilling to define reserves of mineable limestone.
- Topsoil stripping and stockpiling for reclamation purposes.
- Stripping, drilling, blasting, loading, and hauling of overburden to overburden storage areas in order to expose the mineable micritic limestone. Some overburden rock piles are external to the mined pits; however, some previously mined pits are to be backfilled with limestone overburden.
- Drilling, blasting, loading, and hauling of mined limestone ore to a crusher.
- Limestone mining begins at the top of the ridge and the open cut mine progresses downward and expands outward through a series of benches (nominal 20 foot height, and 20 to 60 foot width).

Equipment used in mining includes: three loaders, six 35-ton haul trucks, three blast-hole drills, two bulldozers, a three-cubic-yard tracked mounted excavator, a road grader, a water truck, and miscellaneous pickup and service trucks. The mine currently operates five shifts per week with an occasional Saturday shift (although it has operated as many as 10 shifts per week in the past), about 260 days per year. Mining operations employ about 14 people. Three of these employees work directly for Graymont and the other 11 work for a subcontractor that provides ore and overburden loading and hauling services. Workers include as many as two loader operators, six truck drivers, and one crusher operator per shift. In addition, two drillers/blasters work one shift per day and other support personnel are used, as needed, to operate water trucks, graders and dozers. Employment levels are expected to remain about the same over time, assuming production remains at a similar level. Increased demand for lime products could provide Graymont with an opportunity to increase its mining rate, and therefore its employment base.

Ore Processing Operations

The Indian Creek plant was commissioned in 1982, and produces quicklime (calcium oxide, CaO) and hydrated lime (hydrated calcium oxide, $[\text{Ca}(\text{OH})_2]$) from the limestone.

High purity limestone from the quarry is trucked to a crushing plant where it is sized and conveyed to a large storage pile adjacent to the kilns. Lime is produced in two coal fired pre-heater kilns. The plant site also contains lime sizing and storage facilities. Total quicklime production is about 1,000 tons per day (about 300,000 tons per year) and the plant produces a variety of bulk quicklime products for sale to its customers.



Graymont Limestone Quarry Looking West



Graymont Limestone Quarry Benches

A hydration plant was completed in 1994, capable of producing 300 tons of hydrated lime per day (about 100,000 tons per year). Bulk truck loading facilities are provided at the plant site and rail loading is available from a 2,000-ton terminal located on the Montana Rail Link line north of Townsend. In addition, the Indian Creek facility produces about 16,500 tons of lime kiln dust, some of which is a marketable commodity, depending principally upon demand. Graymont currently employs about 27 people in the operation of the plant and in mine and plant administration. The plant operates approximately 24 hours a day, 365 day per year.

Graymont's current Operating Permit indicates that as many as 60 total employees might be employed at its combined mining and milling operations at the Indian Creek Mine; Graymont has employed as many as 55 employees in the past.

Mine Development Plan and Mining Reserves

Graymont has laid out its exploration program and mine production in mining blocks that expand to the south along the limestone outcrop through time. That is, blocks to the south of the block currently being mined are undergoing topsoil and overburden stripping, and blocks further south are being explored by sampling, mapping and drilling to delineate future mineable reserves. These mining blocks have been laid out as far as the southern edge of the current mine permit boundary. Figures 3-6a and b shows a generalized outline of areas underlain by Madison limestone outcrops within the LHTA.

Historical production began in 1980 near the crusher site, and has shifted to the south over time. In 2001, the "North Ridge" ore block was permitted for mining (Amendment 011). This block occurs at the northeastern edge of the mine permit area. This area lies immediately west of the axis of the regional anticlinal fold and the limestone unit being mined dips only gently to the west near the axis of this fold (Figure 3-6a and b, and Figure 3-7a and b). The "North Ridge" block is being developed simultaneously with southern blocks located to the north of the northwest boundary of the "firing fan" for 2.75-inch rockets (Figures 1-2 and 2-1). This firing fan line is significant in that areas to the south of this line within the LHTA are known to be contaminated with unexploded ordnance (UXO). Haul roads are currently being constructed on the furthest south ore block (that lies immediately north of the 2.75-inch rocket safety fan line) readying it for overburden rock stripping prior to mining. The "North Ridge" area combined with the southernmost blocks to the north of the firing fan line contains mineable reserves of about 13 million tons (Graymont, personal communication, 2005). The current mining sequence is awkward. Normal mining operations would be different if the areas to the south within the current mine permit boundary were not contaminated with UXO.

Graymont estimates that there are as much as an additional 17 million tons of reserves south of the firing fan line within current mine permit boundary (Graymont, personal communication, 2005) (Figure 2-2). This brings the total mineable reserves identified within the current permit boundary to approximately 20 million tons (assuming that Graymont will be able to develop reserves south of the 2.75-inch rocket safety fan line in a timely fashion).

The MTARNG has been clearing areas to the south of the 2.75-inch rocket safety fan line of UXO based on Graymont's determination of what areas are most important with respect to clearing for future mining. At the current rate, the National Guard can clear as much as about 25 acres per year depending on levels of funding, the level of effort, and the degree of contamination. In 2005, the MTARNG received approval to designate and the BLM released about 73 acres of previously contaminated ground as safe for mining. Assuming continued funding for the UXO clearing and removal program, the proposed action calls for clearing all of the land designated by Graymont as most important for mining access, to its southernmost mine permit boundary, by 2008. Graymont and the MTARNG have developed a land use agreement (Memorandum of Agreement, Appendix F) that provides restrictions for Graymont with respect to access on UXO-contaminated land, and a protocol for designating areas of the highest priority for removal of UXO for the MTARNG.

Potential Reserves Outside of the Mine Permit Area

Graymont has identified other potential limestone resources to the south of its existing mine permit area (Figure 3.4), and staked more than 62 lode mining claims over the limestone outcrop since 2003 within this portion of the LHTA (Figures 2-1 and 2-5a). Graymont has conducted detailed surface mapping of the limestone along this zone, drawn geologic cross-sections (Figures 2-7a and b), and collected three lines of almost continuous samples across the outcrop width of the limestone for analyses of limestone quality. Graymont has recently permitted 15 drill sites and drilled 12 holes to conduct exploration and ore confirmation drilling, and the MTARNG has cleared proposed access roads and drill pads of UXO so that Graymont could execute this drilling program. This drilling program was initiated in the fall of 2005. Graymont estimates that these areas contain as much as an additional 55 million tons of limestone resources. If these resources could be upgraded to mineable limestone reserves, total remaining mineable limestone reserves within the LHTA may be as large as 85 million tons (about 100 years of mining at current mining rates).

In addition to limestone reserves, Graymont has identified dolomite ($\text{Ca,Mg}[\text{CO}_3]$) mineralization in a zone parallel and to the east of the limestone currently being mined (Figures 3-6 and 3-7b). Graymont has staked a number of placer and lode mining claims over the northern portion of this dolomite outcrop belt (Figures 2-5a and b). Graymont believes that this belt has a significant potential for the development of future mineable reserves of dolomite. A market exists for dolomite for use as a flux in the manufacture of steel, and Graymont sells dolomite from some of its other properties in the U.S. In its proposed amendment to its Operating Permit 00105 (Resource Management Associates 2006) Graymont proposed two additional quarries to mine dolomite in this general area within the LHTA. Although Graymont has drilled and processed a bulk sample from the dolomite confirming its market suitability (Graymont, personal communication, 2006), Graymont has neither thoroughly explored the dolomite mineral potential, nor evaluated its economic feasibility for mining at the Indian Creek Mine site.

PALEONTOLOGY

Fossils and fossiliferous strata occur in Paleozoic, Mesozoic and Cenozoic rocks of the project area (Table 3-14). Paleozoic and Mesozoic marine sedimentary units range between sparse to abundant in fossil density and occurrence. Locations of strata within the exposures and the fossil occurrences in the Paleozoic and Mesozoic sedimentary units of the project area are similar to those found commonly across southern Montana and are not considered to be unusual or unique. As of 1995, no major paleontological resources had been identified in Cenozoic sedimentary rocks in the project area. Nevertheless, sporadically distributed and fragmentary remains of terrestrial vertebrates exist in Cenozoic strata in the Limestone Hills of the project area.

3.4 SOIL RESOURCES

The study area for soils is all land within the existing LHTA boundary (Figure 3-8). Soils information for the study area was obtained from previously existing publications, site-specific soil field data collected as part of the Graymont mining operations, and baseline information collected by the MTARNG. A description of hydric soils (soils formed under saturated conditions during growing seasons with an anaerobic upper part) associated with the wetlands and waters of the U.S. inventory completed in 1997 (Tetra Tech EM Inc. 1998b) was also included in the baseline data review for this EIS evaluation. Soils resource information was obtained from the following documents:

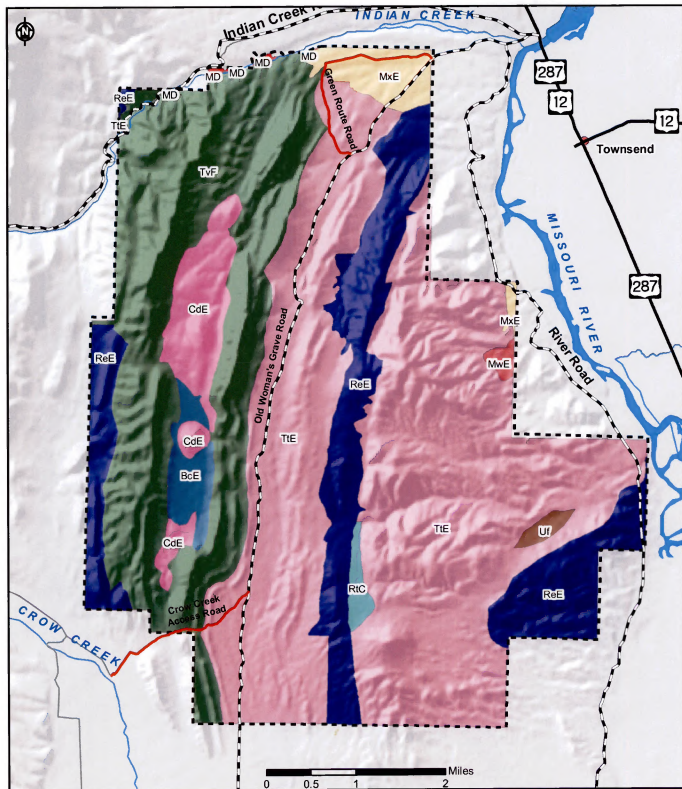
- *Broadwater County Soil Survey, Montana* (U.S. Department of Agriculture [USDA] Soil Conservation Service [SCS] 1977)
- *Montana General Soil Map* (Montana Agricultural Experiment Station 1982)
- *Wetlands and Waters of the U.S. Delineation Report* (Tetra Tech EM Inc. 1998b)
- *BLM Special Projects within the Limestone Hills* (Lower Indian Creek Reclamation Project, 2002; Lower Indian Creek Placer Dredge Engineering Evaluation/Cost Analysis; 2003)(BLM 2002a and 2003)
- *Soil Survey of Helena National Forest Area, Montana*. USDA Forest Service and Natural Resources Conservation Service 2001
- *Graymont Mining and Reclamation Plan*. Submitted to Montana Department of Environmental Quality, updated in 2000

Multiple projects and resource characterization efforts have been completed by other federal and state agencies within the LHTA study area boundary. The U.S. Army Corps of Engineers and BLM completed mine reclamation and stream restoration projects for Lower Indian Creek during 1999 to 2002. A reclamation characterization and screening-level engineering evaluation/cost analysis was completed for the lowest three miles of Indian Creek, from the end of the reconstructed section to the creek's confluence with the Missouri River, in 2003.

The *Broadwater County Soil Survey* and other site-specific soils information contain qualitative and quantitative descriptions of the primary soil characteristics needed to complete an EIS. In addition to the soils reports, aerial photos from 1963 and 1997, U.S. Geological Survey topographic maps, and existing maps from the LHTA were available for this soils assessment. Figure 3-8 shows the soil mapping unit boundaries for the LHTA.

3.4.1 REGIONAL SOIL SETTING AND CHARACTERISTICS

The LHTA is located on the western edge of the Townsend basin between the Big Belt and Elkhorn mountains (Figure 3-1). The terrain consists of steep north-south trending limestone, igneous, argillite, and tertiary sediment ridges and valleys in the western half of the study area, while the eastern portion



Legend

Existing LHTA Boundary



Water



Soil Types

ReE BLAINE-CHEADLE COMPLEX

CdE CHEADLE STONY LOAM

TiE TOLMAN CHANNERY LOAM

RiC ROOTEL CHANNERY LOAM

Md MINE DUMPS

MxE MUSSELHELL-CRAGO CHANNERY LOAM

MxE MUSSELHELL-CRAGO COBBLY LOAM

RnC RENCOT CHANNERY LOAM

TvF TROPICAL ROCK OUTCROP COMPLEX

Uf USTIC TORRIFLUENTS



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

**FIGURE 3-8
SOIL RESOURCES
IN THE LIMESTONE HILLS
TRAINING AREA**

is marked by steep-sided hills and dissected east-west trending drainages underlain by the Spokane shale formation (Montana Bureau of Mines and Geology [MBMG] 1958). The alternating beds of limestone, argillite, and intrusive igneous materials have been chemically and physically altered, uplifted, and eroded to create the Limestone Hills geomorphic terrain. Soils within the LHTA withdrawal study area have developed recognizable and distinguishable characteristics from these differing parent materials. The primary differences between the various soil series found in the LHTA are due to the soil's parent material. Most soil within the LHTA developed from limestone bedrock, a calcareous and clay-rich (argillic) sediment unit, fractured igneous rock, and unconsolidated rock debris transported downslope from these sources.

3.4.2 LIMESTONE HILLS TRAINING AREA SOILS

The LHTA soils are associated with a complex landscape consisting of smooth-and-round to sharp-and-narrow ridgetops and side slopes. Slopes are generally steep (10 to 60 percent) and rock outcrops are common. The delineated soil series and properties of interest for the LHTA are provided in Table 3-15.

The Tropol-Rencot-Tolman soil association is the main soil association mapped for the LHTA making up over 90 percent of the area (USDA-SCS 1977). Tropol-Rock outcrop soils are found on the very steep ridges and side slopes (15 to 60 percent slope) and have developed from limestone bedrock. These soils are typically less than 20 inches thick. Rencot soils are also found on steep ridges and side slopes (15 to 35 percent slope) but have developed from hard calcareous argillite bedrock, rather than from limestone. These soils are also typically less than 20 inches thick. The Tolman soils formed on hilly to steep ridges and side slopes (10 to 35 percent slope) from calcareous argillite bedrock at a depth of less than 20 inches below ground surface.

The Soil Conservation Service mapped other soil series for the lower footslopes and drainages (USDA-SCS 1977). The Blaine-Cheadle complex, Cheadle stoney loam, and Rootel channery loam soil series have developed on slopes ranging from 3 to 35 percent in fractured igneous or fractured calcareous argillite materials. Musselshell-Crago loam soils are associated with colluvial and alluvial deposits of calcareous materials within the valley drainages. These soils are defined as deep soils (greater than 60 inches to bedrock), but typically have 50 percent gravels and cobbles in the lower soil horizons. The Ustic Torrifluent soil series is delineated for the relatively young sand and gravel alluvium deposits within the immediate bed and banks of the current drainages. The depth to bedrock for this soil series is typically less than 36 inches and slopes range from 1 to 3 percent. The mine dump mapping units was delineated for areas of waste rock or where the area has been disturbed by placer mining.

The presence of hydric soils is one of three required criteria used to identify wetland areas. In the LHTA, hydric soils are primarily associated with the wetland fringe along drainageways. The LHTA contains approximately 4.3 acres of wetland areas with hydric soils. These areas are further described in Section 4.6.

**TABLE 3-15
LHTA WITHDRAWAL AREA SOILS**

Map Symbol	Soil Name	Soil Order	Portion of LHTA Area ^a (percent)	Slope Range (percent)	Depth to Bedrock (inches)	Bedrock	Erosion Hazard Rating ^b (Low, Moderate, High, Severe, Very Severe)	Surface Water Runoff Rating ^c (Very Low, Low, Medium, High, Very High)
BcE	Blaine-Cheadle complex	Argic Cryoborolls	1.7	10-25	20-40	Fractured Igneous	Moderate-High	Medium-High
CdE	Cheadle stony loam	Lithic Cryoborolls	4.3	9-35	8-20	Fractured Igneous	Very Severe	High-Very High
MwE	Musselshell-Crago channery loam	Borollic Calciorthids	0.3	15-35	60	Calcareous gravelly and cobbly alluvium	Severe	Very High
MxE	Musselshell-Crago cobbly loam	Borollic Calciorthids	2.2	8-20	60	Calcareous gravelly and cobbly alluvium	Moderate	High
ReE	Rencot channery loam	Lithic Borollic Calciorthids	15.1	15-35	10-20	Hard argillite or sandstone	Severe	Very High
RtC	Rootel channery loam	Borollic Calciorthids	0.6	3-9	23	Fractured, hard calcareous argillite	Severe	Medium-High
TtE	Tolman channery loam	Lithic Argiborolls	49.3	10-35	18	Argillite bedrock	Severe	Very High
TvF	Tropical-Rock Outcrop complex	Lithic Cryochrepts	25.9	15-60	19 (Tropical)	Gravelly residuum weathered from limestone rock	Severe	Very High
Uf	Ustic Torrifluvents	Ustic Torrifluvents	0.4	1-3	36	Sand and gravel alluvium	Moderate-High	Medium
Md	Mine dumps	NA	0.2	ND	ND	ND	ND	ND

Notes:

- a Portion of area based on GIS spatial analysis.
- b Erosion Hazard Rating (Low, Moderate, High, Severe, and Very Severe) based on the probability that erosion damage may occur as a result of site preparation and the aftermath of cutting operations, fires, and overgrazing (USDA-SCS 1993).
- c Surface Water Runoff Rating (Very Low, Low, Medium, High, Very High) based on loss of water from an area by flow over the land surface. The concept assumes a standard storm of 50 millimeters (2 inches) in a 24-hour period (USDA-SCS 1993).

NA Not applicable

ND No data

3.5 WATER RESOURCES

The U.S. Geologic Survey subdivides Montana into five drainage basins. The water resource study area is comprised of the entire area within the existing LHTA boundary shown on Figure 1-2, and falls within what is referred to as the Upper Missouri River Basin (4th level hydrologic unit code 10030101). This river basin extends from Three Forks, Montana, downstream to the outlet of Holter Lake (Figure 3-2). Two major streams flow near or through the LHTA: Crow Creek and Indian Creek. Crow Creek is located just south of the LHTA; Indian Creek is located along the northern boundary and flows through the northwestern-most portion of the existing LHTA (Figure 1-2).

3.5.1 SURFACE WATER OCCURRENCE AND QUALITY

The mountain slopes and foothill areas around the margins of the Upper Missouri River basin are characterized by small intermittent and ephemeral streams which, during periods of heavy or prolonged storms, flow down small drainages and discharge into Indian Creek, Crow Creek, or the Missouri River. In most cases, precipitation infiltrates or is lost to evapotranspiration prior to reaching a surface water body such as a lake or stream. There are no Wild and Scenic River designations in the vicinity of the LHTA. While many of the streams that originate in the Elkhorn Mountains are perennial in their upper reaches, only one perennial stream flows into the LHTA area. The following flow and water quality data apply to the two perennial streams within and nearest the LHTA: Crow Creek, Indian Creek, and their receiving water, the Missouri River.

Crow Creek is a perennial stream originating in the Elkhorn Mountains west of the LHTA and discharging to the Missouri River at approximately two miles north of Toston, Montana. Crow Creek is used as a source of irrigation water, however, the majority of irrigated lands in the Crow Creek Pump Unit which is located south of the LHTA and near Radersburg, is irrigated by surface water pumped from the Missouri River (Montana State Engineers Office 1956). Mean annual flow in Crow Creek near Radersburg is 49 cubic feet per second. Low mean monthly flow occurs in January at 8 cubic feet per second. High mean monthly flow occurs in June at 168 cubic feet per second (USGS 2004).

Indian Creek also originates in the Elkhorn Mountains and discharges to the Missouri River approximately 1 1/4 miles north of Townsend. Indian Creek is typically dry as it flows along the northern border of the LHTA. Loss of surface water in Indian Creek by infiltration occurs just north and west of the LHTA in a portion of the stream channel due to disturbance from past placer mining activity. Stream flow in Indian Creek west of Townsend above the confluence with West Fork of Indian Creek ranges from 0.24 to 10.6 cubic feet per second. Flow in the West Fork of Indian Creek near the confluence with Indian Creek ranges from 0.03 to 0.89 cubic feet per second (Montana Department of Environmental Quality [MDEQ] 1996).

In 2000, the BLM reclaimed approximately 2,400 lineal feet of Indian Creek previously disturbed by placer mining. Reclamation was achieved by construction of a hydraulically and geomorphologically stable channel for perennial flows capable of supporting a riparian plant community and habitat for brook trout. The reclaimed stretch is located within and adjacent to the north right-of-way boundary in the south half of Section 28, Township 7 North, Range 1 East.

The Missouri River flows from south to north outside the LHTA within ¼ mile of River Road and LHTA boundary. Mean annual stream flow in the Missouri River at Toston is 5,214 cubic feet per second. Low mean monthly flow occurs in August at 2,726 cubic feet per second. High mean monthly flow occurs in June at 12,390 cubic feet per second (USGS 2004).

SURFACE WATER QUALITY

Surface water quality data is available for both Indian Creek and the West Fork of Indian Creek and are summarized in this section. Both creeks have similar water chemistry. The surface water is a calcium-bicarbonate type with a moderate specific conductance of 170 to 260 micromhos per centimeter. The pH ranges from 7.3 to 8.3. The water is moderately hard at 73 to 134 milligram per liter as calcium carbonate. Sulfate concentrations are relatively low and range from 26 to 56 milligrams per liter. Concentrations of nitrate plus nitrite were also low and ranged from 0.02 to 0.52 milligrams per liter. Total recoverable metals in stream samples are low with the exception of arsenic that ranges from 0.064 to 0.081 milligrams per liter at one station in Indian Creek (MDEQ 1996).

Both Crow Creek and Indian Creek are listed by the Montana Department of Environmental Quality as impaired water bodies (303(d) list, MDEQ 2004). Crow Creek and Indian Creek stream impairments are primarily due to sediment and metals associated with agriculture and resource extraction. A summary of impaired water bodies in the LHTA is provided in Table 3-16.

TABLE 3-16 IMPAIRED WATER BODIES IN THE LHTA UPPER MISSOURI RIVER BASIN			
Stream Segment & Years on 303(d) List	Segment Length (miles)	Probable Impairment Causes	Probable Impairment Sources
Crow Creek (1996, 1998, 2000, 2002, 2004)	19	Flow alteration; other habitat alterations; siltation	Agriculture; irrigated crop production; resource extraction; placer mining
Indian Creek (1996, 1998, 2000, 2002, 2004)	11	Flow alteration; other habitat alterations; siltation	Agriculture; abandoned mining; resource extraction; placer mining

Source: Montana DEQ 2004

Some ephemeral stream channels in the LHTA have been developed as small stock water holding ponds with berms on the downstream sides of the pond to temporarily hold surface water following snowmelt or a heavy precipitation event. Ranchers historically have captured and developed surface water for livestock in these streams (Montana State Engineers Office 1956). Under normal conditions, drainages in the LHTA are not tributaries to larger streams. Since no perennial streams flow within the LHTA other than Indian Creek, stock water is the primary use of surface water that might be available in the drainages.

3.5.2 GROUNDWATER OCCURRENCE AND QUALITY

In general, coarse-grained alluvial aquifers near mountain fronts are characterized by relatively high flow rates (high hydraulic conductivity). Fine-grained alluvial deposits tend to have relatively low hydraulic conductivity. Higher hydraulic conductivity in bedrock aquifers typically results from secondary fractures. Secondary openings in limestone bedrock may be enlarged due to the dissolution of calcite or dolomite by circulating groundwater.

The Mississippian limestone units, such as the Madison Limestone, are an important aquifer in the Elkhorn Mountains. Secondary permeability in the bedrock is formed by karst and evaporite-solution breccias, fracturing, and possibly dolomitization. Transmissivity values estimated from nine specific-capacity tests of eight wells completed in the limestones near Radersburg ranged from 13 to 2,700 square feet per day and averaged 800 square feet per day. Temperature and geochemical data indicate that groundwater moving through the limestone recharges the basin-fill aquifers in the Townsend Valley (Kendy and Tresch 1996).

Permeability of bedrock aquifers, such as the Madison Limestone located in the LHTA, typically decreases with depth due to compressional forces on the rock. The decrease in permeability and near-surface weathering at depth tends to prevent downward flow of groundwater and directs it laterally, generally parallel to the top of bedrock. Water that infiltrates deeper bedrock is confined to faults and fracture flow. Water moving through fractures that surface at a lower elevation may discharge as springs or seeps. Groundwater moving through fractures or weathered bedrock is a source of recharge to alluvial aquifers in the Townsend Valley.

The occurrence of groundwater in the LHTA is primarily controlled by bedrock fractures in faulted and folded sedimentary and igneous rocks. Aquifers in the LHTA are recharged from rainfall and snowmelt. Thin deposits of sediment found in ephemeral channel bottoms in the LHTA are generally dry, have limited storage, and do not yield a reliable source of groundwater (with the exception of springs). Reported yields for wells drilled in the bedrock units are typically less than 50 gallons per minute. A well drilled by the Department of Military Affairs in the northern portion of the LHTA is located in fractured Madison Limestone that is reported to yield 70 gallons per minute. Well depths for all wells in the LHTA range from 18 feet to 291 feet below ground surface. Static water levels range from 3 to 141 feet below ground surface (MBMG 2004). A summary of well characteristics in the LHTA is provided in Table 3-17.

**TABLE 3-17
SUMMARY OF GROUNDWATER WELL INFORMATION
FOR THE LIMESTONE HILLS TRAINING AREA**

Site Name	Township	Range	Section	Total Depth (feet)	SWL (feet)	Yield (gpm)	Comp Date
Diamond T Ranch	06N	02E	20	56	35	30	10/2/1991
Unknown	06N	01E	34	100	30	25	--
Arnett, Vera R.	06N	01E	9	42	14	30	9/22/1998
Bocher, Margaret	06N	01E	4	0	36	0	--
Round Grove Ranch	06N	01E	22	18	6	23	1/1/1915
McMullan & Williams	06N	01E	34	105	14	50	1/1/1959
McMullan & Williams	06N	01E	34	105	14	50	1/1/1959
Cowger, Bill	06N	01E	30	153	110	13	1/1/1978
Knodel, Harold	06N	02E	33	118	55	30	1/1/1976
Booher, Margaret E.	07N	01E	33	0	3	0	1/1/1880
Booher, Margaret E.	07N	01E	33	20	0	0	1/1/1880
Booher, Margaret E.	07N	01E	33	20	0	0	1/1/1880
Booher, Margaret E.	07N	01E	33	20	0	0	1/1/1880
Booher, Margaret E.	07N	01E	33	86	0	0	1/1/1960
Drake, David	06N	02E	7	291	6	8	9/23/1999
Rodriguez, Edwin	07N	01E	35	60	5	15	6/21/2001
Department of Military Affairs	06N	01E	10	180	16	9	5/27/2003
Montana State Dept. of Military Affairs – Montana National Guard	07N	01E	27	235	141	70	11/28/2000

Notes:

- N North
 E East
 gpm gallons per minute
 SWL Static water level
 Comp Completion (when well was installed)

Source: Montana Bureau of Mines and Geology 2004. Ground-Water Information Center (GWIC) database. <http://mbmggwic.mtech.edu/>

Eighteen water wells are located in the LHTA and found in the Montana Bureau of Mines and Geology Ground Water Information Center database (MBMG 2004). Well locations are shown on Figure 3-5. Twenty five water wells are found in the DNRC water rights database (Table 3-18). Some overlap of the databases exists; however, discrepancies have not been resolved by the agencies at this time. In addition, the DNRC water rights database identifies 12 developed springs in the LHTA. A table summarizing the groundwater and surface water rights for the LHTA is provided in Table 3-18.

TABLE 3-18
SUMMARY OF WATER RIGHTS INFORMATION

Type	WR Number	Purpose	WR Flow Rate	Priority Dates	Qtr Section	Section	Township	Range	Owner
STRM	78587	WI	5.12 GPM	4/17/1926	W2SW	2	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78587	WI	5.12 GPM	4/17/1926	N2	2	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78588	ST	--	12/31/1858	N2	2	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78588	ST	--	12/31/1858	NWSW	2	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78581	ST	--	12/31/1858	SESWS	4	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78582	WI	2.02 GPM	4/17/1926	SESWS	4	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	90268	MN	7.50 CFS	12/05/1886	NESWNW	5	6 N	1 E	Tyrrel, Nila R.
STRM	90309	MN	1.25 CFS	8/22/1924	NESWNW	8	6 N	1 E	Tyrrel, Nila R.
STRM	90310	ST	--	8/22/1924	NESWNW	8	6 N	1 E	Tyrrel, Nila R.
STRM	90311	IR	1.25 CFS	8/22/1924	NESWNW	8	6 N	1 E	Tyrrel, Nila R.
STRM	78577	WI	2.02 GPM	4/17/1926	E2SENW	11	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78578	ST	--	12/31/1858	E2SENW	11	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78587	WI	5.12 GPM	4/17/1926	W2W2	11	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78588	ST	--	12/31/1858	SWSW	11	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	89962	ST	10.00 GPM	1/1/1915	SWNWNW	11	6 N	1 E	Round Grove Ranch Co. Inc.
STRM	78587	WI	5.12 GPM	4/17/1926	NENE	15	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	78588	ST	--	12/31/1858	NENE	15	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
STRM	89963	ST	10.00 GPM	1/1/1915	NWNWSE	23	6 N	1 E	Round Grove Ranch Co. Inc.
GWTR	77006	ST	1.50 GPM	1/25/1991	SWSWSW	1	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	77006	WW	1.50 GPM	1/25/1991	SWSWSW	1	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
WELL	114822	DM	20.00 GPM	11/30/2000	SWSESE	1	6 N	1 E	Tuemmler, Melissa L.
WELL	114822	DM	20.00 GPM	11/30/2000	SWSESE	1	6 N	1 E	Tuemmler, Paul KE
GWTR	63358	ST	2.00 GPM	7/30/1986	SESWSW	2	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	63358	WW	2.00 GPM	7/30/1986	SESWSW	2	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	63360	ST	15.00 GPM	7/30/1986	SWSENE	3	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	63360	WW	15.00 GPM	7/30/1986	SWSENE	3	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)

**TABLE 3-18
SUMMARY OF WATER RIGHTS INFORMATION**

Type	WR Number	Purpose	WR Flow Rate	Priority Dates	Qtr Section	Section	Township	Range	Owner
GWTR	77005	ST	1.50 GPM	1/25/1991	SWSESE	4	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	77005	WW	1.50 GPM	1/25/1991	SWSESE	4	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	90308	DM	35.00 GPM	8/22/1924	NESWNNW	8	6 N	1 E	Tyrrel, Nila R.
DSPR	78583	ST	2.02 GPM	12/31/1858	SESENNW	9	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78584	WI	2.02 GPM	4/17/1926	SESENNW	9	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78585	WI	.76 GPM	4/17/1926	SESWNE	10	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78586	ST	.76 GPM	12/31/1858	SESWNE	10	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	63359	ST	1.00 GPM	7/30/1986	SESWSW	15	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	63359	WW	1.00 GPM	7/30/1986	SESWSW	15	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
GWTR	59227	ST	1.00 GPM	5/28/1985	SESENNW	16	6 N	1 E	Montana, State Board of Land Commissioners
GWTR	89914	ST	10.00 GPM	1/1/1915	NESENNW	22	6 N	1 E	Round Grove Ranch Co. Inc.
GWTR	103049	ST	10.00 GPM	1/30/1998	E2E2SW	22	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78593	WI	7.00 GPM	4/17/1926	NENESW	23	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78594	ST	7.00 GPM	12/31/1858	NENESW	23	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78595	WI	4.00 GPM	4/17/1926	NENENE	25	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78596	ST	4.00 GPM	12/31/1858	NENENE	25	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
WELL	6765	ST	25.00 GPM	5/4/1959	NWNNWNW	34	6 N	1 E	Smith, John P.
WELL	78597	ST	25.00 GPM	8/12/1959	NWNNENE	34	6 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
WELL	78598	WI	25.00 GPM	8/12/1959	NWNNENE	34	6 N	1 E	Smith, John P.
DSPR	34916	ST	5.00 GPM	5/1/1915	NENWNE	36	6 N	1 E	Montana, State Board of Land Commissioners
GWTR	89964	ST	9.00 GPM	1/1/1915	NENWNE	36	6 N	1 E	Montana, State Board of Land Commissioners
WELL	106657	DM	1.00 GPM	2/17/1999	NWNNWSE	7	6 N	2 E	Drake, David E.
WELL	106657	DM	1.00 GPM	2/17/1999	NWNNWSE	7	6 N	2 E	Drake, Karen L.
WELL	79752	DM	30.00 GPM	11/18/1991	NWSWSE	20	6 N	2 E	4 Bar A LLP
WELL	79752	LG	30.00 GPM	11/18/1991	NWSWSE	20	6 N	2 E	4 Bar A LLP
WELL	77037	ST	25.00 GPM	2/8/1991	SWSENE	26	7 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
WELL	77037	WW	25.00 GPM	2/8/1991	SWSENE	26	7 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)

**TABLE 3-18
SUMMARY OF WATER RIGHTS INFORMATION**

Type	WR Number	Purpose	WR Flow Rate	Priority Dates	Qtr Section	Section	Township	Range	Owner
DSPR	78619	WI	1.48 GPM	4/17/1926	SWSESE	35	7 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)
DSPR	78620	ST	1.48 GPM	12/31/1858	SWSESE	35	7 N	1 E	USA (Dept of the Interior Bureau of Land Mgmt)

Notes:

Data obtained from DNRC water rights data base on internet (www.dnrc.state.mt.us)

Database updated once a year

CFS Cubic Feet per Second
 DM Domestic
 DSPR Developed Spring
 FW Fish and Wildlife
 GWTR Groundwater
 GPM Gallon per Minute
 IR Irrigation
 LG Lawn and Garden
 Max Maximum
 Mgmt Management
 MN Mining
 Qtr Quarter
 ST Stock
 STRM Stream
 USA United States of America
 WELL Well
 WI Wildlife
 WR Water Right
 WW Wildlife/Waterfowl
 Vol Volume

No aquifer test data are available for wells located in the LHTA area. Four aquifer tests were completed in the Diamond Hill mine area west of the LHTA and may be representative of bedrock aquifer characteristics in the LHTA. The permeability of bedrock units in the Diamond Hill area (igneous intrusive and altered limestone deposits) was found to be very low to moderate and ranged from 0.003 to 30 square feet per day (MDEQ 1996).

Groundwater in the LHTA is of relative good quality. It is generally a calcium-bicarbonate type with a specific conductivity ranging from 300 to 800 micromhos per centimeter. The water is moderately alkaline with a pH of 7.2 to 8.0 and relatively hard (150 to 360 milligrams per liter as calcium carbonate). Moderate sulfate concentrations of up to 300 milligrams per liter were reported. Dissolved metals and nitrate plus nitrite concentrations are typically found at low concentration. Arsenic was reported in one groundwater sample at a concentration of 0.06 milligrams per liter. Iron, manganese, and zinc also are occasionally measured in samples collected in the area at concentrations just above detection limits (MDEQ 1996).

3.5.3 SPRINGS

Two types of springs are located within the LHTA. One type of spring is associated with shallow Tertiary (recent) deposits in small stream deposits. The thin veneer of Tertiary alluvial (water laid) deposits is recharged by precipitation and stream seepage. These springs are ephemeral in nature (Davis and others 1980). The second type of spring occurs in fissures and fractures in deep pre-Tertiary sedimentary strata. These types of springs are less prevalent in the area and are generally associated with faults and fractures in bedrock low on the east flank of the Limestone Hills. Since these springs are recharged from precipitation higher in the hills to the west they tend to be more perennial and less subject to precipitation fluctuations (Davis and others 1980). Spring locations are shown in Figure 3-5.

The number of springs identified in the LHTA varies from four to more than two dozen, depending upon the source of information and the time of the spring survey. The cultural resource study completed by Davis and others in 1980 identified at least two dozen springs scattered throughout the LHTA based on field evidence. The 1980 study also used the geology and groundwater study completed by the USGS (Lorenz and McMurtrey 1956) to document the location of springs in the area. However, only four springs are identified in the Montana National Hydrography Dataset (2005) and the MTARNG LHTA *Integrated Natural Resource Management Plan* (MTARNG 2001), and all four are located in the southern portion of the training area. The discrepancy regarding the number of springs in the LHTA is likely a result of the ephemeral nature of most of the springs and the relative drier climatic conditions recently experienced in the area.

3.5.4 WATER RIGHTS AND WATER USE IN THE LHTA

Regulation of surface water and groundwater within the boundaries of the State of Montana are administered under the Montana State Constitution. Article IX, Section 3(3) of the State Constitution states that "all surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for use of its people." Historically, Montana has followed the water right doctrine of prior appropriations.

The State of Montana has authority to close river basins to additional appropriations for a variety of reasons. Currently, all of the Upper Missouri River Basin (including all surface water in the study area) is closed to further surface water appropriations and reservations (Department of Natural Resources and Conservation [DNRC] 2004).

SURFACE WATER RIGHTS

Eighteen surface water rights and six reserved claims are located within the LHTA. Since all waters belong to the State of Montana, water rights holders do not own the water itself. Instead, they possess a right to use the water within state guidelines. A water reservation is a water right that is reserved by a government entity for future use or instream flow (DNRC 2005). Surface water rights and points of diversions within the LHTA are summarized in Table 3-18. These water rights data were obtained from the Department of Natural Resources and Conservation database files available online (DNRC 2004).

GROUNDWATER RIGHTS

Most groundwater wells and developed springs in the LHTA are used for stock water and wildlife (DNRC 2004). Several wells are used for domestic and lawn and garden irrigation purposes. The BLM has groundwater certificates (priority date after 1973) on 15 groundwater wells and statement of claims (priority date before 1973) or reserved claims on 10 developed springs in the LHTA. All BLM water rights are listed as stock or wildlife use (DNRC 2004).

The Department of Military Affairs has two wells on record in the LHTA (Groundwater Information Center [GWIC] 2004). One well was completed in Section 10, Township 6 North, Range 1 East (T6N, R1E) in 2000. It was drilled to a depth of 180 feet and yields 9 gallons per minute and is no longer used. The second well was drilled in Section 27, Township 7 North, Range 1 East (T7N, R1E) in the northern portion of the LHTA. The well was completed in fractured limestone bedrock at a depth of 235 feet and used to supply a new stock watering tank adjacent to the well. The well yields 70 gallons per minute. The well is pumped during the spring, summer, and fall grazing season, and a timer system controls the discharge demand. Overflow from the stock water tank is conveyed to an adjacent ephemeral stream channel that feeds into Indian Creek. Water in the channel provides a periodic source of water for wildlife and aquatics prior to infiltrating into the channel bottom sediments. The amount of overflow water from the stock tank is of insufficient quantity to develop a reliable flow in the ephemeral channel.



Stock Watering Tank from Department of Military Affairs Well



Stock Watering Tank Runoff Channel

3.6 VEGETATION AND WETLANDS

The vegetation study area includes all land within the existing boundaries of the LHTA (Figure 3-9). The following discussion of vegetation resources in the LHTA is summarized from three recent studies conducted for the Montana Army National Guard (Western Technology & Engineering 1998; Scow and Beaver 1999; Scow 2001), and two studies conducted for the Indian Creek mining operation located within the northwestern portion of the LHTA (Scow and Culwell 1993; Scow and Juntunen 2003). Field and office methodologies used for these inventories are detailed in the respective reports. The LHTA vegetation type classification for these inventories is based on Pfister *et al.* (1977) for forest types, Mueggler and Stewart (1980) for upland grassland and shrubland types, and Hansen *et al.* (1995) for riparian/wetland types.

3.6.1 VEGETATION TYPE DESCRIPTIONS

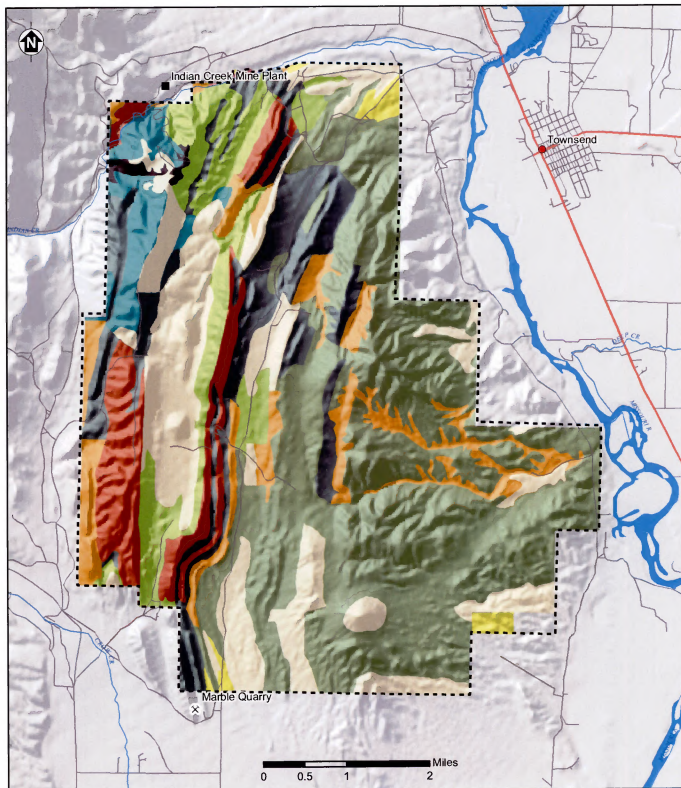
Thirty-one vegetation types, including 19 upland types and 12 drainage bottomland types have been identified in the LHTA (Table 3-19). Upland types include six in grassland, nine in shrub/grassland, three in forest and one tame pasture type. Drainage bottomland types include four deciduous tree types, four riparian shrub types and four herbaceous drainage types. Figure 3-9 shows generalized vegetative cover in the study area. A list of vegetation types identified in the LHTA is given in Table 3-19. Acreage of generalized vegetation cover types is presented in Table 3-20. Plant species are referred to by their common names throughout this section. Refer to Appendix H for corresponding scientific plant names.

UPLAND VEGETATION TYPES

Grassland

Grassland types comprise a significant portion (5,169 acres or 22 percent) of lower and middle elevations throughout the LHTA, interspersed with upland shrub and savannah types. The predominant grassland type on prairie benches and lower slopes is the bluebunch wheatgrass/blue grama habitat type. Other dominant species in this type include needle-and-thread, prairie junegrass and fringed sagewort.

One grassland community, not described as a habitat type by Mueggler and Stewart (1980), is found in association with previously burned stands of juniper and sagebrush. It comprises relatively limited acreage in the eastern portion of the LHTA. The bluebunch wheatgrass/soapwell yucca community type occupies rolling hills in these burned areas; common associates include scattered Rocky Mountain juniper and limber pine.



Legend

- Mine
- × Quarry
- Town
- - - Existing LHTA Boundary
- Water

VEGETATION

- | | |
|-------------------|--------------------------------|
| ■ BIG SAGEBRUSH | ■ MID GRASS |
| ■ BLACK SAGEBRUSH | ■ MOUNTAIN MAHOGANY |
| ■ COTTONWOOD | ■ ROCK OUTCROP |
| ■ DOUGLAS FIR | ■ SHORT GRASS |
| ■ DUMP | ■ WHITEBARK PINE - LIMBER PINE |
| ■ JUNIPER | |



LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3-9
VEGETATION TYPES OF THE
LIMESTONE HILLS
TRAINING AREA

**TABLE 3-19
LIST OF VEGETATION TYPES IDENTIFIED
FOR THE LIMESTONE HILLS TRAINING AREA, 1993-2002**

UPLAND VEGETATION TYPES	
GRASSLAND	
<i>Agropyron spicatum/Bouteloua gracilis</i> h.t. ^a	Bluebunch wheatgrass/blue grama h.t.
<i>Agropyron spicatum/Yucca glauca</i> c.t. ^b	Bluebunch wheatgrass/soapwell yucca c.t.
<i>Agropyron spicatum/Poa sandbergii</i> h.t.	Bluebunch wheatgrass/Sandberg bluegrass h.t.
<i>Agropyron spicatum/Agropyron smithii</i> h.t.	Bluebunch wheatgrass/western wheatgrass h.t.
<i>Festuca idahoensis/Agropyron spicatum</i> h.t.	Idaho fescue/bluebunch wheatgrass h.t.
<i>Festuca scabrellal/Agropyron spicatum</i> h.t.	Rough fescue/bluebunch wheatgrass h.t.
SHRUB/GRASSLAND	
<i>Artemisia nova/Agropyron spicatum</i> h.t.	Black sagebrush/bluebunch wheatgrass h.t.
<i>Artemisia nova/Festuca idahoensis</i> h.t.	Black sagebrush/Idaho fescue h.t.
<i>Artemisia tridentatal/Agropyron smithii</i> c.t.	Big sagebrush/western wheatgrass c.t.
<i>Artemisia tridentatal/Agropyron spicatum</i> h.t.	Big sagebrush/bluebunch wheatgrass h.t.
<i>Artemisia tridentatal/Festuca idahoensis</i> h.t.	Big sagebrush/Idaho fescue h.t.
<i>Juniperus scopulorum/Artemisia nova/Agropyron spicatum</i> c.t.	Rocky Mountain juniper/black sagebrush/bluebunch wheatgrass c.t.
<i>Juniperus scopulorum/Artemisia tridentatal/Agropyron spicatum</i> c.t.	Rocky Mountain juniper/big sagebrush/bluebunch wheatgrass c.t.
<i>Juniperus scopulorum/Artemisia tridentatal/Festuca idahoensis</i> c.t.	Rocky Mountain juniper/big sagebrush/Idaho fescue c.t.
<i>Cercocarpus ledifolius/Agropyron spicatum</i> h.t.	Curly-leaf mountain mahogany/bluebunch wheatgrass h.t.
UPLAND FOREST/SAVANNAH	
<i>Pinus flexilis/Agropyron spicatum</i> h.t.	Limber pine/bluebunch wheatgrass h.t.
<i>Pseudotsuga menziesii/Agropyron spicatum</i> h.t.	Douglas-fir/ bluebunch wheatgrass h.t.
<i>Pseudotsuga menziesii/Festuca scabrella</i> h.t.	Douglas-fir/rough fescue h.t.
TAME PASTURE	
<i>Bromus inermis/Agropyron cristatum</i> c.t.	Smooth brome/crested wheatgrass c.t.
DRAINAGE BOTTOM VEGETATION TYPES	
DECIDUOUS FOREST	
<i>Populus tremuloides/Cornus stolonifera</i> h.t.	Quaking aspen/red-osier dogwood h.t.
<i>Populus tremuloides/Poa pratensis</i> c.t.	Quaking aspen/Kentucky bluegrass c.t.
<i>Populus trichocarpa/Symphoricarpos occidentalis</i> c.t.	Black cottonwood/western snowberry c.t.
<i>Populus angustifolia/Symphoricarpos occidentalis</i> c.t.	Narrowleaf cottonwood/western snowberry c.t.
RIPARIAN SHRUB	
<i>Salix bebbiana</i> c.t.	Bebb willow c.t.
<i>Prunus virginiana</i> c.t.	Common chokecherry c.t.
<i>Potentilla fruticosa/Poa pratensis</i> c.t.	Shrubby cinquefoil/Kentucky bluegrass c.t.
<i>Symphoricarpos occidentalis</i> c.t.	Western snowberry c.t.

TABLE 3-19 (Continued)
LIST OF VEGETATION TYPES IDENTIFIED
FOR THE LIMESTONE HILLS TRAINING AREA, 1993-2002

HERBACEOUS (including wetlands)	
<i>Carex nebrascensis</i> c.t.	Nebraska sedge c.t.
<i>Poa pratensis</i> / <i>Agropyron smithii</i> c.t.	Kentucky bluegrass/western wheatgrass c.t.
<i>Poa pratensis</i> / <i>Agrostis stolonifera</i> c.t.	Kentucky bluegrass/redtop c.t.
<i>Agrostis stolonifera</i> c.t.	Redtop c.t.

Notes:

- a h.t.= habitat type - Habitat types follow the classifications of Mueggler and Stewart (1980), Pfister et al. (1977) and Hansen et al. (1995).
 b c.t.= community type

TABLE 3-20
ACREAGE OF VEGETATION COVER TYPES IDENTIFIED
FOR THE LIMESTONE HILLS TRAINING AREA, 2004

Vegetation Type		Approximate Acreage^a	Percentage of LHTA
Upland Vegetation Types	Grassland	5169	22.3
	Shrub/Grassland	15,533	67.1
	Black sagebrush & R.M. juniper/black sage	1,758	7.6
	Big sagebrush & R.M. juniper/ big sage & R.M. juniper/grass	12,071	52.1
	Mountain mahogany & R.M. juniper/mahogany	1,704	7.4
	Upland Forest & Savannah	2,124	9.2
	Tame Pasture	41	0.2
Drainage Bottom Vegetation Types	Deciduous Forest & Riparian Shrub	14	0.1
	Herbaceous Drainages	NA ^b	NA ^b
Miscellaneous^c		284	1.2
TOTAL		23,165	100.1

Notes:

^aAcreages are derived from a correlation of vegetation cover types with wildlife habitat types mapped by Farmer et al. (2004).

^bNot Available; probably less than 2 acres.

^cIncludes: rock outcrops, buildings, mining and other disturbances (mostly barren), reclaimed areas.

R.M. Rocky Mountain

LHTA Limestone Hills Training Area



Hooker's Townsendia



Phlox on LHTA Limestone Outcrop

The bluebunch wheatgrass/Sandberg bluegrass habitat type is found most commonly on steep, dry slopes of variable aspect. It is most extensive in the northern half of the LHTA. Common associates include prairie junegrass, threadleaf sedge and stemless hymenoxys. Another relatively minor type is the bluebunch wheatgrass/western wheatgrass habitat type, occurring on scattered drainage bottoms and terraces in the eastern portion of the LHTA.

At moderate to higher elevations in the LHTA, two fescue grassland types are present in relatively minor amounts. The Idaho fescue/bluebunch wheatgrass habitat type occurs on middle and upper slopes or ridges of variable aspect. It is more commonly associated with shallower, drier soils than the following type. Scattered black sagebrush, Rocky Mountain juniper and green rabbitbrush are common associates. The rough fescue/bluebunch wheatgrass habitat type is found on deeper soils with higher available soil moisture, generally on cooler north and northeasterly aspects. This type is commonly associated with, but not restricted to, previously burned stands of Douglas-fir/rough fescue on midslope and upper slope broad swales along limestone ridges in the northwestern portion of the LHTA. Idaho fescue is usually a codominant species, and other conspicuous species include compact clubmoss, rosy pussytoes, tufted fleabane and prairiesmoke, as well as scattered Douglas-fir and Rocky Mountain juniper.

Shrub/grassland

Shrub-dominated upland types comprise the greatest acreage on the LHTA at 15,533 acres, or 67 percent of the area. Nine shrub types were identified, dominated by various sagebrush and juniper communities. Black sagebrush types are most prevalent in the western third of the study area; big sagebrush types are equally prevalent in the central portion and dominate the eastern third of the study area. Rocky Mountain juniper is conspicuous in most sagebrush stands of both series, and dominates the visual aspect of many stands, although sagebrush canopy cover is usually substantially greater. Mountain mahogany stands dominate the crests and upper slopes of limestone ridges, together with limber pine savannah.

Two habitat types in the black sagebrush series were identified. This series was not distinguished from the low sagebrush series by Mueggler and Stewart (1980). The black sage/bluebunch wheatgrass habitat type commonly forms a mosaic with the bluebunch wheatgrass/Sandberg bluegrass and limber pine/bluebunch wheatgrass types on dry lower slopes and benches. Codominant species include Rocky Mountain juniper, prairie junegrass, needle-and-thread, compact clubmoss, blue grama, Sandberg bluegrass, tufted fleabane, and hairy goldenaster. The black sage/Idaho fescue habitat type generally occupies sites of cooler aspect with better soil development than the preceding type; common associates are Rocky Mountain juniper, bluebunch wheatgrass, prairie junegrass and fringed sagewort.

Three big sagebrush types were identified. The big sagebrush/western wheatgrass community type, not recognized as a habitat type by Mueggler and Stewart (1980), is found on mesic swales and toeslopes, and comprises rather limited acreage in the LHTA. Plant species composition is generally similar to that of the Kentucky bluegrass/western wheatgrass community type, with the addition of big sagebrush. The

big sage/bluebunch wheatgrass habitat type is a very common type and most prevalent in the central and eastern parts of the study area, found on benches and lower to middle slopes; common associates are Rocky Mountain juniper, compact clubmoss, blue grama, needle-and-thread, prairie junegrass, fringed sagewort and a variety of forbs. Another relatively minor type, the big sage/Idaho fescue habitat type is most commonly found on midslope swales of cool (northwest) aspect with good soil development, in the western part of the study area. Species composition is similar to the preceding type, with the addition of Idaho fescue as an understory dominant.

Because Rocky Mountain juniper is often codominant in black sagebrush and big sagebrush stands, the juniper/black sage/bluebunch wheatgrass, juniper/big sage/bluebunch wheatgrass and the juniper/big sage/Idaho fescue community types were recognized for the LHTA. Species composition resembles that of the respective sagebrush types, with the addition of Rocky Mountain juniper in the overstory. These three communities may represent early seral stages of habitat types in the limber pine and Douglas-fir forest series.

The mountain mahogany/bluebunch wheatgrass habitat type is associated with the higher portions (variable aspect) of limestone ridges, where soil development is poor. Rocky Mountain juniper is often codominant with mahogany, and scattered limber pine are often present. The understory is generally very sparse and mostly dominated by cushion forbs such as stemless hymenoxys, Rocky Mountain rockmat, cushion goldenweed and woolly groundsel.

Upland Forest/Savannah Types

Upland conifer forest types occur primarily at middle and higher elevations in the LHTA, on slopes and ridges of variable aspect, and cover 2,124 acres (9 percent) of the LHTA. Stands are generally best developed on cooler northerly and easterly aspects. Two forest series well represented in the LHTA are the limber pine series and the Douglas-fir series. The limber pine series occupies the driest forest sites in western Montana (Pfister *et al.* 1977).

The limber pine/bluebunch wheatgrass habitat type is common in the study area, found on dry, rocky soils in association with sagebrush, juniper and mahogany types, generally forming a savannah aspect. Douglas-fir and Rocky Mountain juniper are usually codominant with limber pine. Common associates in the understory include black sagebrush and/or big sagebrush as well as bluebunch wheatgrass and a forb component similar to that described for the sagebrush types. On skeletal limestone soils, a phase of this type occurs where mountain mahogany is dominant in the understory together with species common to the mountain mahogany shrubland type. Some forest/savannah sites transitional between the limber pine and Douglas-fir series resemble the limber pine/Idaho fescue habitat type (Pfister *et al.* 1977), but within the LHTA can be regarded as relatively narrow ecotones between the limber pine/bluebunch wheatgrass and Douglas-fir/rough fescue habitat types.



Upland Savannah and Shrubland in the LHTA



Thinned Conifer Savannah in the LHTA

Forest stands on cool, northerly aspects or in broad swales in which limber pine is sparse or absent are identified as the Douglas-fir/rough fescue habitat type. Since many of these stands have sterile, sparse understory growth, classification of habitat type is difficult and some stands may represent the Douglas-fir/Idaho fescue habitat type. Major associates include Rocky Mountain juniper, weedy milkvetch and scattered limber pine.

DRAINAGE BOTTOMLAND AND WETLAND TYPES

Riparian and wetland communities and habitat types associated with drainage bottoms were identified using the classification of Hansen et al. (1995). The diversity of these types reflects the history of livestock grazing, fire and other disturbances in the LHTA. Although these types collectively represent relatively minor acreage in the LHTA (about 14 acres or 0.1 percent of the area), they are distinctive and significant in terms of their riparian or wetland settings.

Deciduous Forest Types

Deciduous forest types occur as patchy stringers on subirrigated and flowing portions of major upland drainage bottoms in the LHTA. Most upland drainages are deeply incised due to the area's geology. Deciduous forest types are most extensive along Indian Creek, a lowland perennial stream near the northern boundary of the study area. Since cattle tend to congregate in these stands (as well as in riparian shrub stands) the disturbed understories are mostly dominated by such invader species as Kentucky bluegrass, redbud and a diversity of weedy forb species. Four deciduous forest types were identified in the LHTA.

A diversity of shrub species provides dense cover in the mid-story and understory of stands in the quaking aspen/red-osier dogwood habitat type. The type is most prevalent in Indian Creek Canyon. Black cottonwood is codominant with quaking aspen. Dominant shrubs include common chokecherry, dogwood and Wood's rose; subdominant shrubs include bristly gooseberry and western snowberry. The herbaceous understory is dominated by Kentucky bluegrass and redbud. Owing to the presence of scattered conifers, portions of this type may represent the Douglas-fir/dogwood habitat type at climax condition.

The aspen/Kentucky bluegrass community type is found downstream of Indian Creek Canyon and at scattered sites on upland drainage bottoms. It is apparently a disturbed seral stage of the previous habitat type, induced by grazing and other impacts. Rocky Mountain juniper is usually conspicuous in the mid-story, and the understory is dominated by chokecherry, Wood's rose, western virgins-bower, Kentucky bluegrass, basin wildrye, spotted knapweed, starry false solomon's seal and Missouri goldenrod.

The black cottonwood/western snowberry community type occupies much of the Indian Creek floodplain below the canyon and shows extensive disturbance from past land use practices including placer mining. Along upper reaches it probably represents a seral stage of the aspen/dogwood habitat type; lower placed reaches may also represent an early stage of the black cottonwood/dogwood

community type leading to either the Rocky Mountain juniper/ dogwood or Douglas-fir/dogwood habitat types (Hansen et al. 1995). Major associates include Wood's rose, Kentucky bluegrass, redtop, spotted knapweed and black medic.

The narrowleaf cottonwood/western snowberry community type is found on scattered stretches of upland drainage bottoms, particularly in the central and northeastern portions of the LHTA. Scattered mature conifers and conifer regeneration indicate that these stands are seral stages of the Douglas-fir/dogwood or juniper/dogwood habitat types mentioned above. Major associates are Rocky Mountain juniper, Wood's rose and Kentucky bluegrass as well as Douglas-fir and limber pine. Other conspicuous species include Canada bluegrass, rosy pussytoes, common dandelion, starry false solomon's seal and spotted knapweed.

Riparian Shrub Types

These types occupy hydric and mesic drainage sites, and include one tall shrub type, one mid-shrub type and two low shrub types. They occur mostly as scattered patches along drainages and constitute very minor acreage in the LHTA.

The Bebb willow community type is a streamside community primarily in Indian Creek Canyon with species composition rather similar to the riparian aspen/dogwood type, minus the tree canopy. Willow stands are dominated by Bebb willow, thinleaf alder and sandbar willow; codominants include Wood's rose, Kentucky bluegrass, redtop and field mint.

The common chokecherry community type occasionally forms dense thickets in mesic drainages; codominants are Wood's rose, bristly gooseberry, western snowberry and Kentucky bluegrass. Other common species include golden currant, Rocky Mountain juniper, skunkbush sumac, western serviceberry and dandelion.

The shrubby cinquefoil/Kentucky bluegrass community type occurs as very local patches on highly mesic sites that appear to be subirrigated or have seasonally saturated soils. Major associates include Wood's rose, western snowberry and baltic rush.

The mesic low shrub type, western snowberry/Kentucky bluegrass, is compositionally similar to the chokecherry type. Major associates are Wood's rose, chokecherry and wax currant.

Herbaceous Wetland Types

The primary herbaceous wetland type in the LHTA is the Nebraska sedge community type. The small wetland areas in this community type have hydric soils and permanent to semi-permanent high water tables. Most of these sites have been significantly degraded by cattle grazing and trampling. Except where fenced from livestock, a major portion of perennial stream wetland fringes are currently occupied by non-sedge herbaceous drainage types with reduced hydrophytic species composition. Most upland

drainages in the LHTA are deeply incised, and wetland fringes of hydrophytic vegetation (where they occur) are generally very narrow at about 0.5-2 feet on either side of the stream channel, except occasional microsites. Nebraska sedge is usually dominant in this type on protected sites; elsewhere, codominant species variously include baltic rush, Kentucky bluegrass, redtop, small-winged sedge, white clover and dandelion. Small microsites in the type may support woolly sedge or brookgrass.

The redtop community type occupies moister sites than the Kentucky bluegrass community, and is a degraded sere of the Nebraska sedge wetland fringe community. Major associates vary according to the degree of disturbance and site conditions, including Kentucky bluegrass, small-winged sedge, clustered field sedge, remnant Nebraska sedge, baltic rush, orchardgrass, field mint and Rocky Mountain buttercup. Scattered narrowleaf cottonwood and Rocky Mountain juniper are also often present in this community type.

Herbaceous Non-wetland Types

The Kentucky bluegrass/western wheatgrass community type is a grazing-induced sere of various mesic drainage communities. Scattered mesic shrubs (chokecherry, Wood's rose, wax currant, skunkbush sumac) are often present but herbaceous species dominate, including weedy forbs. Common associates include Canada bluegrass, slender wheatgrass, dandelion, spotted knapweed, creeping white prairie aster and often scattered Rocky Mountain juniper.

The Kentucky bluegrass/redtop community type is essentially a mosaic of the other two non-sedge herbaceous types, occurring on sites with an intermediate moisture regime and reflecting species composition of both types.

3.6.2 RANGE CONDITION

Range condition was calculated in the LHTA in 1998 based on relative cover values recorded at 40 permanent transect sites. Condition ranged from 38 percent in the Conifer Woodland cover type to 65 percent in the Fescue Grassland cover type and 67 percent in Mountain Mahogany Shrubland (Table 3-21). The primary grazeable upland cover types in the LHTA (based on areal coverage and forage availability), Bluebunch Wheatgrass Grassland and Big Sagebrush Shrubland, were in mid-good (58 percent) and low-good (55 percent) range condition, respectively, using Natural Resources Conservation Service (NRCS) technical guides.

For eight Bluebunch Wheatgrass Grassland transects collectively, range condition varied from high-fair (45 percent) to high-good (67 percent). Range condition calculated for 15 Big Sagebrush transects varied from low-fair (32 percent) to mid-good (66 percent). Black Sagebrush Shrubland range condition averaged good (61 percent), varying from 55 to 72 percent. Grazeable woodland sites, while in generally fair range condition, produce relatively little palatable forage compared to grassland and open shrubland. Overall range condition in the LHTA was rated as good.

**TABLE 3-21
RANGE CONDITION RATINGS FOR SIX VEGETATION COVER TYPES,
LIMESTONE HILLS TRAINING AREA, 1998 - 2001**

Vegetation Cover Type	Predominant Range Site ^a	1998		2001	
		Range Condition ^b		Range Condition ^b	
		Percent	Class	Percent	Class
Bluebunch Wheatgrass Grassland	Sw (10 - 14" p.z.)	56	G-	48	F+
Fescue Grassland	Sw (15 - 19" p.z.)	65	G	60	G
Black Sagebrush Shrubland	Sw (10 - 14" p.z.)	59	G	76	E-
Big Sagebrush Shrubland	Sw (10 - 14" p.z.)	55	G-	59	G
Mountain Mahogany Shrubland	VS (10 - 19" p.z.)	67	G+	No Data	No Data
Conifer Woodland	Grazeable Woodland (VS, 10 - 19" p.z.)	38	F	No Data	No Data

Notes:

Adapted from Scow and Beaver (1999) and Scow (2001)

^aRange sites for Limestone Hills monitoring transects are in the Foothills and Mountains Province of Montana, primarily in the 10- to 14-inch precipitation zone and occasionally in the 15- to 19-inch precipitation zone, including the following:

<u>Code</u>	<u>Range Site</u>
Ly	Limy
Si	Silty
Sw	Shallow
VS	Very Shallow

Range sites were determined by using the Broadwater County Survey's soil/range site correlation table to match range sites with each soil mapping unit in which a transect occurred.

^bRange Condition Rating is derived from percent composition of canopy cover data. The condition rating was calculated from the maximum composition values allowed by the Natural Resource Conservation Service (formerly Soil Conservation Service) technical guides for each range site.

Range Condition Class is a verbal description of the numerical rating, where:

- E =Excellent (76-100 percent)
- G =Good (51-75 percent)
- F =Fair (26-50 percent)
- P =Poor (0-25 percent)

and "+" or "-" indicates higher or lower condition within those ranges.

p.z. = precipitation zone

" = inch



Gooseberry in the Closure Area, LHTA



LHTA Mountain Mahogany

In 2001, the MTARNG directed the establishment of twenty 0.1-acre permanent plots in the LHTA to monitor areas of various disturbances (for example, military exercises, noxious weed infestations, livestock grazing) or treatments (for example, biological weed control, recently burned areas). Range condition calculations for these sites in 2001 ranged from 31 to 84 percent (low-fair to excellent) (Table 3-21). The highest average range condition rating occurred in the Black Sagebrush Shrubland cover type (76 percent, low-excellent), and the lowest rating in Bluebunch Wheatgrass Grassland (48 percent, high-fair). Condition ratings were intermediate in Fescue Grassland and Big Sagebrush Shrubland.

3.6.3 SPECIES LIST/RARE PLANTS

A list of vascular plant taxa identified during three field inventories conducted for the MTARNG in the LHTA is presented in Appendix H. The list also incorporates two inventories of the Graymont mine area which is included within the northwestern portion of the LHTA. A total of 371 vascular plant taxa were identified in the study area (Table 3-22), with broad-leaved herbaceous plants (forbs) comprising the majority (259 species at 70 percent). Forbs included 189 perennial taxa (164 native, 18 introduced and 7 fern allies), and 70 annual/biennial taxa (40 native and 30 introduced). Of 66 grasses and grass-like plants identified (18 percent of the total) there were 57 perennial taxa (46 native and 11 introduced), and 9 annual grass taxa. The 46 woody plant taxa (12 percent of the total) found in the study area included 2 subshrubs, 35 shrubs and 9 tree species.

TABLE 3-22 NUMBER OF VASCULAR PLANT TAXA BY MORPHOLOGICAL CLASS, LIMESTONE HILLS TRAINING AREA, BASED ON 1993-2002 INVENTORIES			
	CLASS	NUMBER OF TAXA	PERCENT OF TOTAL
Forbs	Graminoids	66	18
	Native Perennial Graminoids	46	12
	Introduced Perennial Graminoids	11	3
	Native Annual Graminoids	3	<1
	Introduced Annual Graminoids	6	2
	Forbs	259	70
	Native Perennial Forbs	164	44
	Introduced Perennial Forbs	18	5
	Ferns and Allies	7	2
	Native Annual/Biennial Forbs	40	11
	Introduced Annual/Biennial Forbs	30	8
	Woody Plants	46	12
	Subshrubs	2	<1
	Shrubs	35	9
	Trees	9	2
TOTAL Vascular Taxa		371	100

Note:

< Less than

The Montana Natural Heritage Program lists plant species of concern and potential concern for the region encompassing the LHTA (MTNHP 2003). Two of the taxa listed were identified in the study area during five inventories conducted between 1993 and 2002. The Montana Natural Heritage Program (2003) lists lesser rushy milkvetch as a G5,S2 species. That is, its global ("G") rank of "5" indicates that it is "demonstrably secure, though it may be quite rare in parts of its range." The state ("S") rank of "2" indicates that it is "at risk because of very limited and potentially declining population numbers and/or habitat, making it vulnerable to extirpation in the state." Lesser rushy milkvetch is currently on the BLM "sensitive" list, which includes species known to occur on BLM-administered land for which the BLM has the capability to significantly affect the conservation status of the species through management, or known to occur on lands affected by BLM-authorized actions.

Lesser rushy milkvetch was found primarily on lower slopes and toeslopes of limestone ridges in the northern half of the LHTA, particularly in sagebrush and juniper-dominated communities. It was recorded in the black sagebrush/Idaho fescue, big sagebrush/bluebunch wheatgrass, Rocky Mountain juniper/big sagebrush/bluebunch wheatgrass and juniper/big sagebrush/Idaho fescue types. A few plants were also noted in the Kentucky bluegrass/western wheatgrass mesic swale community. Populations are healthy and apparently quite capable of withstanding moderately heavy grazing pressure. During the 1998 quantitative inventory (Scow and Beaver 1999), lesser rushy milkvetch was recorded on one of eight transects in Bluebunch Wheatgrass Grassland and on both Fescue Grassland transects, but was not recorded on any of the 30 shrubland and conifer woodland transects. It is undoubtedly scattered at other locations in the area, probably usually in association with fescue, and may be more abundant than the transect data suggest.

Sword townsendia was formerly listed by the Montana Natural Heritage Program as a G3,S3 species. That is, "potentially at risk because of limited range, populations and/or habitat, even though it may be abundant in some areas." Its status has been revised to the list of "plant species of potential concern" as G3,S3 indicating that it is of "limited abundance or distribution in Montana, but not presently considered to be at risk" (MTNHP 2003).

Sword townsendia is a regional endemic occurring from central Wyoming to southwestern and southcentral Montana. It is locally common in the Big Horn Canyon area (Carbon County), with smaller populations identified in Beaverhead and Broadwater counties. It occurs on open, rocky, limestone-derived soils of slopes and windswept ridgetops in the valley and foothills zones.

Sword townsendia was recorded within and adjacent to the Graymont limestone mine permit area in the northwestern portion of the LHTA, occurring primarily in the mountain mahogany community type. Plant populations in the area favor sites where limestone forms a gravel pavement surface, more so than rock outcrop sites.



Lesser Rushy Milkvetch



Sword Townsendia

3.6.4 NOXIOUS WEEDS

The county noxious weed list designates noxious weeds for Montana under the *County Weed Control Act* 7-22-2101(5), Montana Code Annotated. Of fourteen "Category I" weed species on the 2003 list, eight were identified in the LHTA during the 1993 to 2002 inventories (Table 3-23): hoarycress, spotted knapweed, diffuse knapweed, Canada thistle, common hound's-tongue, leafy spurge, dalmatian toadflax and butter-and-eggs. These species were primarily associated with areas of recent and historic disturbances such as roadsides, abandoned mine sites and homesteads, and drainage bottoms affected by livestock impacts. The exception is spotted knapweed, which is much more generally distributed throughout the study area.

TABLE 3-23 LIST OF NOXIOUS WEED SPECIES AND OTHER POTENTIALLY PROBLEMATIC WEEDS IDENTIFIED FOR THE LIMESTONE HILLS TRAINING AREA, 1993-2002	
Binomial Scientific Name	Common Name
Introduced Perennial Forbs	
<i>Cardaria draba</i> *	Heart-podded hoarycress
<i>Centaurea maculosa</i> *	Spotted knapweed
<i>Cirsium arvense</i> *	Canada thistle
<i>Euphorbia esula</i> *	Leafy spurge
<i>Linaria dalmatica</i> *	Dalmatian toadflax
<i>Linaria vulgaris</i> *	Butter-and-eggs
Introduced Annual/Biennial Forbs	
<i>Carduus nutans</i>	Musk thistle
<i>Centaurea diffusa</i> *	Diffuse knapweed
<i>Cynoglossum officinale</i> *	Common hound's-tongue
<i>Verbascum thapsus</i>	Flannel mullein

Note:

*Species designated as Category I noxious weeds by the State of Montana (effective June 27, 2003).

Canada thistle is found in relatively low concentrations on wet or mesic sites occupied by drainage bottomland types such as the Kentucky bluegrass/redtop and chokecherry communities. Leafy spurge was noted in a few small populations in the northwestern study area in black sagebrush and mountain mahogany stands, as well as mesic swales in the southern portion. Hoarycress was recorded in a smooth brome/crested wheatgrass pasture in the northeastern study area, a few disturbed sites in the Indian Creek bottom, and mesic swales in the southern portion.

Spotted knapweed is widely distributed in the LHTA, occurring in virtually every upland and drainage bottomland vegetation type throughout the area. It is a conspicuous component of most upland types but usually is least abundant in mahogany and conifer forest stands. Spotted knapweed is often a dominant component of mesic swale and drainage bottom communities.

Dalmatian toadflax occurs in isolated populations on upland benches primarily in sagebrush communities. Diffuse knapweed was also noted only in a few isolated populations in the proximity of roads.

Common hound's tongue, musk thistle, and butter-and-eggs occur as minor populations scattered on mesic drainage bottomland communities throughout the LHTA, with musk thistle the most evident in areas that have received sustained livestock impacts.

3.7 FISH AND WILDLIFE

Fish and wildlife resources in and near the LHTA have been described by numerous sources, including but not limited to, research, planning, and management documents (various dates) by the BLM, Forest Service, U.S. Fish and Wildlife Service, and Montana Department of Fish, Wildlife and Parks; Stevens (1966); Butts (1993, 1995, 1997); WESTECH (1993, 1997, 1998); and Farmer *et al.* (2004). The following discussion summarizes information applicable to the area within the existing LHTA boundary (Figure I-2).

3.7.1 FISH

The only perennial or intermittent stream in the LHTA is Indian Creek, which crosses the extreme northwest corner of the LHTA. Aquatic habitats in Indian Creek in and near the LHTA have been degraded by historic placer, hydraulic mining and dredge mining. The only salmonid suspected to be in this portion of the creek, the non-native brook trout, is considered rare (Montana FWP 2004).

3.7.2 WILDLIFE

The LHTA encompasses a variety of wildlife habitats, including sagebrush terraces along the Missouri River; narrow stringers of riparian habitat along Indian Creek; steeply rolling grasslands and sagebrush/grasslands; benches and low ridges vegetated with juniper and limber pine habitats; steep, rocky sandstone and limestone ridges dominated by Douglas-fir, limber pine and juniper with curly-leaf mountain mahogany and sagebrush understories; and deeply incised limestone and sandstone canyons. In total, 7 wildlife habitat types divided into 26 habitat subtypes have been identified in the LHTA. For the most part, these habitats are xeric dry. Surface water sources are limited to a few springs and seeps, most of which have been developed for livestock use.

The region encompassing the LHTA is known to support 381 species of fish and wildlife (7 fish, 5 amphibians, 8 reptiles, 291 birds and 70 mammals) at least seasonally. In comparison, the LHTA contains preferred habitat for about 4 fish, 1 to 2 amphibians, 7 reptiles, 98 birds, and 46 mammals. Of these, 1 fish, no amphibians, 3 reptiles, 80 birds and 27 mammals have been recorded in the LHTA (Appendix I). These records are based on reconnaissance-level investigations and undoubtedly underestimate the actual species richness of the LHTA. Nevertheless, about 70 percent of the wildlife species that would be expected to occur in the LHTA have actually been observed.

AMPHIBIANS

Compared to many other states, Montana supports a comparatively small number of amphibians. Only 12 species are known to be native to the state, and only 3 are known from the region that encompasses the LHTA. Very little habitat suitable for amphibian reproduction (surface water sources) is available in the LHTA. Consequently amphibians are a minor component of the LHTA fauna.

REPTILES

Similarly, only 17 species of reptiles are known to be native to Montana, and only 7 are known from the region encompassing the LHTA. Habitat for aquatic reptiles (turtles) is not available in the LHTA. Three species of snakes have been recorded in the LHTA (Appendix I). Of these, the gopher snake and western rattlesnake are considered to be common.

BIRDS

The LHTA supports a good diversity of birds. Due to the paucity of aquatic habitat, very few species that are normally associated with water would be expected in the LHTA, although the proximity of the LHTA to the Missouri River and Canyon Ferry Reservoir results in some aquatic bird use of the training area (Appendix I).

The LHTA provides habitat for a variety of raptors (eagles, hawks, falcons and owls; Appendix I). Eleven species have been observed in the LHTA, and three species are known to nest there. The most commonly observed species are the turkey vulture, red-tailed hawk, American kestrel, and great horned owl.

One native upland game bird, the blue grouse, and two non-native species (gray partridge and ring-necked pheasant) have been observed in the LHTA. All three species are considered uncommon in the LHTA.

Most other avian species recorded in the LHTA would be considered common or typical of grassland, xeric (dry) shrub and dry forest habitats.

MAMMALS

Due to their small size, secretive nature, or seasonal occurrence many species of mammals that probably occur in the LHTA have not been documented (Appendix I). Nevertheless, 27 species have been recorded, suggesting that the training area supports a good diversity of mammals.

The LHTA and surrounding area support considerable roosting habitat for bats, such as small caves, crevices, snags and tree cavities. Potential habitat is available for many of the bat species known to occur in Montana (Appendix I). However, the paucity of surface water sources in the area may limit its use by bats. No hibernacula or roosts that support large numbers of bats are known from the area.

The two most commonly observed carnivores in the LHTA are the coyote and badger. The mountain lion, which is also a big game animal in Montana, is present at least from late autumn through early spring when wintering deer and elk are available.



Bighorn Sheep in the LHTA



Mountain Bluebird in the LHTA



Saw-whet Owl in the LHTA



Western Rattlesnake in the LHTA

Seasonal habitat for seven species of big game (elk, mule deer, white-tailed deer, pronghorn, bighorn sheep, black bear and mountain lion) is available in the LHTA (Appendix I). Habitat for white-tailed deer and black bear is limited. Mountain lions are present at least seasonally when wintering elk and mule deer are available. Low numbers of pronghorn are present in the open, more rolling habitats of the LHTA from spring through autumn.

Mule deer are present year round, but their numbers significantly increase during winter. The portion of the LHTA west of the Old Woman's Grave Road is the most important mule deer winter range associated with the Elkhorn Mountains. In most years, about half of all mule deer counted on winter ranges around the Elkhorn Mountains are observed in the Limestone Hills. When local mule deer numbers are at their peak, over 1,000 mule deer are present in the LHTA. Most of this use is associated with the limestone hogback ridges and their accompanying mountain mahogany/shrub habitats in the western portion of the training area.

A few elk may be present in the LHTA year round, particularly in the western third of the area, but most elk use of the area comes during winter. Comparatively few elk (less than 100) regularly used the LHTA during winter. Although elk may be found anywhere in the LHTA, most elk winter observations are from west of the Old Woman's Grave Road.

Bighorn sheep were transplanted into the Crow Creek drainage of the Elkhorn Mountains in the winters of 1996, 1997, and 2000. These sheep have reproduced successfully and have established primary winter ranges along the Crow Creek and Indian Creek drainages. Some sheep are present in the LHTA year round. Wintering sheep may be found anywhere in the LHTA but are usually observed west of the Old Woman's Grave Road in the limestone hogback ridges.

3.7.3 SPECIAL STATUS SPECIES

No federally listed, proposed, or candidate endangered or threatened wildlife species, or their designated critical habitats, are endemic to the LHTA. The U.S. Fish and Wildlife Service determined that no consultation under the *Endangered Species Act of 1973*, as amended, is necessary for the proposed action at this time (Appendix G).

No fish, amphibians or reptiles that are listed as "sensitive" by the BLM would be expected to occur in the LHTA. Preferred habitat is available for six birds. The ferruginous hawk (rolling sagebrush/grassland with scattered trees), golden eagle (cliffs or taller trees), peregrine falcon (limestone cliffs along Indian Creek), burrowing owl (rodent or badger burrows on grassland and sagebrush/grassland benches) and logger head shrike (limited amounts of deciduous riparian habitat along Indian Creek) have not been observed to nest in the LHTA but may occur as migrants. The Brewer's sparrow (sagebrush) has been recorded in the LHTA during the nesting season and may nest there.

Preferred habitat for five mammals that are listed as "sensitive" by the BLM is available in the LHTA. The Preble's shrew could occur in a variety of habitats, including sagebrush habitat throughout the area. There are comparatively few records of this species from Montana, and it is not known to occur in the vicinity of the LHTA. Long-eared myotis, fringed myotis, long-legged myotis and Townsend's big-eared bat could all roost in crevices or caves in limestone and sandstone formations; all but the fringed myotis have been identified along Indian Creek.

3.8 CULTURAL RESOURCES

The study area for the LHTA corresponds to the lands within and directly adjacent to those included in the existing LHTA right-of-way grant in Broadwater County, Montana (Figure 1-2).

3.8.1 CULTURAL OVERVIEW

This section summarizes human use in the vicinity of the LHTA.

PREHISTORY

The prehistory of the Northwestern Plains can be divided into three temporal periods or traditions: Early, Middle and Late. The Early Prehistoric (Paleo-Indian) Tradition dates to between 11,300 and 7,000 before present (BP), the Middle Prehistoric (Archaic) Tradition to between 7,500 and 2,000 BP, and the Late Prehistoric Tradition to between 2,000 and 150 BP.

Early Prehistoric (Paleo-Indian) Tradition (11,300 – 7,000 BP): The Early Prehistoric Tradition can be loosely divided into an early half and a late half, which are demarcated archaeologically by changes in projectile point shapes and hafting technologies, as well as subsistence foci. Archaeological evidence indicates that these early people were highly mobile hunter-gatherers organized in extended families or multifamily bands that exploited large and small game and plant resources across the plains and intermountain basins (Frison 1991:45). Projectile points from this period are large, stemmed points, believed to have been attached to thrusting/throwing spears.

Sites and isolated projectile points typical of the Early Prehistoric Tradition have been found in areas directly adjacent to the LHTA. The most important of these is the Indian Creek site (Site No. 24BW626), located within a half mile of the boundary of the LHTA. The recovery of a Clovis point in the excavations at Indian Creek is particularly significant, since it came from a primary, undisturbed context, in apparent association with a Folsom component that has been radiocarbon dated to 10,980 ± 150 BP (Davis and Greiser 1992:228). The period during which Clovis points were manufactured has been tightly dated between 11,300 to 10,900 years BP. Thus, the date of the Clovis point recovered from the Indian Creek site overlaps with the beginning of the later Folsom Complex.

Middle Prehistoric (Archaic) Tradition (7,500 – 2,000 BP): Changes in general subsistence practices and projectile point styles mark the transition from the Early Prehistoric Tradition to the Middle Prehistoric Tradition. Unlike the earlier tradition, the Middle Prehistoric Tradition included an expanded hunting and gathering subsistence base to incorporate a wider use of plants and animals. The range of environmental niches subject to exploitation broadened, with people expanding from the plains toward more upland locales (Knight 1989:218). Additional changes in projectile point and weapons technology are marked by the appearance of large side-notched points, which are commonly thought to mark a shift

from the use of the throwing spear to the use of the atlatl. Semi-subterranean pit houses that date to the Middle Prehistoric Tradition have been found at sites in Wyoming.

A significant change in climate is believed to have been the major impetus to the cultural changes that characterize the Middle Prehistoric Tradition (Knight 1989:216-217). Popularly known as the Altithermal interval, but now referred to as the Atlantic Episode, the period between about 8,500 and 5,000 BP was an extended period of warmer, drier weather on the Northwestern Plains. It is believed that these climatic changes caused a retreat in the distribution of prairie grassland plant communities, to the north, east and west margins of the plains. The human hunters followed the bison as the bison followed the retreat of grassland communities into the low hills and flanks of the mountains.

Some have argued that bison populations decreased in the early part of the Middle Prehistoric Tradition, a change that may have affected the success of communal bison hunting practices. However, Frison *et al.* (1996:19) note that communal bison kills dating to the Middle Prehistoric Tradition occurred in northeast Wyoming, an indication that people continued their reliance on this species. The Head-Smashed-In Site in Alberta, Canada, the largest bison jump site in North America, dates to 5,700 years ago, firmly within the Middle Prehistoric Tradition. However, there does appear to be a greater exploitation of other ungulates such as pronghorn and mule deer during the early period of the Middle Prehistoric Tradition (Frison *et al.* 1996:19). After approximately 5,000 BP the climate changed once again, becoming cooler, and in some areas moister, resulting in conditions not much different from today. Nineteen of the previously recorded sites within the LHITA contain Middle Prehistoric Tradition cultural materials.

Late Prehistoric Tradition (2,000 – 150 BP): The transition from the Middle to the Late Prehistoric Tradition is associated with the technological change from an atlatl-thrown dart point to the bow-and-arrow-driven arrow point. This change is indicated by a reduction in overall size and morphology of projectile points. Additional changes in material culture from Late Prehistoric sites include the occasional appearance of pottery.

During this period a series of climatic fluctuations, of a lesser magnitude than the Atlantic Episode, may have caused local changes to the environment. The degree to which these changes affected local animal and human populations is not entirely clear. The well-documented "Little Ice Age," or Neo-Boreal Episode, which occurred from about 400 to 100 years BP, brought conditions that were colder and moister than those of today. This may have brought the tree line to lower elevations, although local pollen evidence does not indicate any significant shifts in the vegetation (Knight 1989:238).

Frison *et al.* (1996:27) suggest that human populations increased significantly during the late Late Prehistoric Tradition. They note that there is an abundance of radiocarbon dates from the Late Prehistoric Tradition, with the number of dates increasing from the end of the late Middle Prehistoric Tradition to a peak around 750 to 650 BP, followed by a sudden decline. Within the present boundary of the LHITA there are eight sites that contain materials that are temporally diagnostic of the Late Prehistoric Tradition.

The Protohistoric Period: The Protohistoric Period describes the span of time in which the existence of European Americans was known to many Native American groups, and more importantly, Euro-American material items had become available, augmenting, and in some cases replacing, native technologies. A review of the ethnographic record indicates that a number of American Indian groups were present in what is now the State of Montana prior to, and at the time of, earliest European contact.

The Salish people are widely accepted as the primary Protohistoric occupants of the Helena vicinity (including the vicinity of the LHTA). Their traditional territory encompassed much of western Montana and parts of eastern Idaho. Kootenai territory included the northwestern part of the state and north and west into what is now British Columbia and Idaho. Traditional Crow territory covered the eastern two-thirds of the state, with the northern limits reaching the vicinity of the LHTA. The Blackfeet, Gros Ventre and Assiniboiné territories encompassed parts of the northern portion of the state east of the Rocky Mountains and stretched into Canada. The Nez Perce, usually described as a Plateau group, routinely traveled east of the Continental Divide to hunt bison on the plains, where they came into conflict with the Shoshone and other tribes.

HISTORIC-ERA DEVELOPMENT WITHIN THE LHTA

The process of non-Indian settlement of the LHTA is similar to that in other parts of western Montana. Individuals obtained title to lands from the public domain through a variety of means, including mineral and homestead entries, cash, and scrip patents. Within the training area, the first mineral entries occurred in 1866, when miners descended on the region to exploit the placer gold deposits on Indian Creek and Crow Creek in the Indian Hills. Tracing the source of placer deposits to their origins, miners soon staked lode claims upstream from the original diggings. Mining districts established during the historical period in the vicinity of the LHTA include the Indian Creek (also known as Park/Hassel) district, the Radersburg district and the Winston (also known as Beaver Creek) district (GCM Services 1995a, 1995b).

Although precious metal prospecting and mining occurred within the training area, these endeavors were never very productive. A review of the BLM historical index for Township 6 North, Range 1 East (T6N R1E), which is the township that contains the majority of the land in the training area, indicates that between 1898 and 1901 only 10 mineral entry patents were issued to lands within the township. After 1901, no new mineral patents were issued. A large number of unpatented claims were filed on lands within the township, and it is believed that the workings of these claims account for the relatively large number of historical site manifestations identified during prior cultural resource inventories (Davis *et al.* 1980). The closest area of intensive, productive, mining activity was along Indian Creek, on lands formerly included within the MTARNG's Special Land Use Permit area, but excluded under the most recent use agreement. The only active mining that currently occurs within the LHTA is the Graymont mine, within the permitted area that overlaps with the MTARNG LHTA right-of-way.

The northern portion of the training area does contain a portion of the Indian Creek Road, a historically important travel corridor that linked the mining town of Hassel in the Elkhorn Mountains, with Townsend, the nearest commercial center, located on the bank of the Missouri River. This overland route was heavily used, a fact not overlooked by some of the merchants from Townsend. The single cultural resource property in the LHTA listed on the National Register of Historic Places (Site No. 24BW296) is located near Indian Creek Road. An addition property near Indian Creek Road and inside the LHTA has been nominated.

Agricultural settlement and development within the LHTA occurred much later than in adjacent areas. An important factor affecting the pattern of settlement within the training area was a series of federal land withdrawals that effectively closed the area to private land claims. The first of these was in 1900, when the General Land Office ordered a temporary withdrawal of lands in T6N R1W (subject to prior claims), along with several adjacent townships, for inclusion in the Elkhorn Forest Reserve. In 1903, the order as it pertained to the eastern portion of the township, including the LHTA, was revoked by a Secretary of the Interior's Order. In 1905, much of the eastern half of the township was once again withdrawn from the public domain, under a Secretary's Order for the Madison River Reclamation Project. Finally, in 1909, the lands within the training area included in this reclamation project were opened to entry.

The earliest homestead entry filed in T6N R1E was in 1906, to be cancelled in 1911. Between 1906 and 1937, 30 people filed claims to 160- or 320-acre parcels under the various homestead statutes. Cash entry patents were relatively uncommon, accounting for only 2 of the 30 claims filed. Most received homestead patents to 160- or 320-acre claims. Ten of the homestead entries, one third of the total filed in the township, were either cancelled or relinquished. Included in this number are two 640-acre stock-raising homestead claims located directly within the training area. Filed in 1928 and 1929, they were relinquished in 1932 and 1934, respectively.

Much of the public domain within the training area was simply never filed upon under either mining or homestead legislation. The majority of the entries in T6N R1E that actually went to patent were located on the periphery of the training area, where natural systems and features (water sources and topography) were more conducive to settlement. The training area does, however, contain a variety of historic-era remains, many of which are likely associated with failed agricultural endeavors of the early twentieth century. Three parcels of private land, all of which originated as homestead claims, are currently consolidated under the ownership of the Round Grove Ranch. In addition, the BLM continues to lease surrounding federal lands to private interests for grazing.

The MTARNG began to use the Limestone Hills as a training facility in the 1950s when changes in its military mission necessitated the acquisition of a larger training area that could accommodate the longer live-fire ranges associated with tanks and self-propelled artillery. The Limestone Hills site, which consisted principally of federal lands, fit the requirements. Located close to Helena and the MTARNG's main training facility at Fort Harrison, the area contained little development that would be impacted by the Guard's training activities.

Military infrastructure consists of three primary parts: a live-fire range and maneuver area, a small cantonment area, and access roads to connect the facilities. Improvements associated with the range include an observation tower, an ammunition storage area, leveled firing platforms, and several observation bunkers located throughout the range. Since the range is used for the firing of live ordnance, the impact zone has suffered major disturbance and contains many impact craters. The cantonment area consists of a Range Support Facility (maintenance bays, equipment storage, fenced compounds, vehicle storage), a guard shack, and a fuel loading/unloading pad.

3.8.2 CULTURAL RESOURCE MANAGEMENT WITHIN THE LHTA

The MTARNG operates on BLM lands in the LHTA through a right-of-way grant, one provision of which is that the BLM will take the lead completing Section 106 compliance work mandated under the *National Historic Preservation Act*.¹ The only other provision of the grant specific to cultural resources is that the MTARNG must avoid impacting all previously recorded sites, not just those listed in, or recommended eligible for listing in, the National Register of Historic Places. Laws applicable to the management and preservation of cultural resources in the LHTA are listed in Table 1-5.

Historically, when the MTARNG initiated an undertaking within the LHTA the Environmental Program Manager contacted the BLM to arrange for cultural resource support. If the project was of relatively small scale, the BLM District Archaeologist completed the compliance inventory and submitted the report to the Montana State Historic Preservation Office. For large-scale projects the MTARNG was responsible for providing funding for the work, which was then completed by cultural resource consultants, under contract to the Montana Department of Military Affairs. The work was completed according to the BLM's standards, and was reviewed by that agency before being sent to the State Historic Preservation Office for compliance review.

In 1998, the Army adopted regulation 200-4 Cultural Resources Management (Army Regulation [AR] 200-4), providing guidance for cultural resources management programs of both active duty and reserve components. Specifically, AR 200-4 directs the state Army National Guards to prepare statewide *Integrated Cultural Resource Management Plans* (ICRMP) for installations and activities under their control by ownership, lease, license, public land withdrawal, or any similar instrument.

In 2003 the MTARNG implemented its *Integrated Cultural Resource Management Plan*, including a set of standard operating procedures for personnel to follow in order to meet its cultural resource responsibilities. Established standard operating procedures relevant to the LHTA include those covering new construction and other ground-disturbing activities, the inadvertent discovery of cultural resource properties, the future discovery of human remains, curation of archaeological materials, and tribal

¹ BLM management of cultural resources in the LHTA is guided by the procedures and methods set forth in Handbook H-8110, Guidelines for Identifying Cultural Resources (BLM 2001b), the 1983 Headwaters Resource Area Resource Management Plan, and its nationwide Programmatic Agreement with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers.

consultation. The *Integrated Cultural Resource Management Plan* also includes a list of items specific to the LHTA to be completed between 2003 and 2006. An update and summary of the Plan relevant to the LHTA study area is provided in Appendix J.

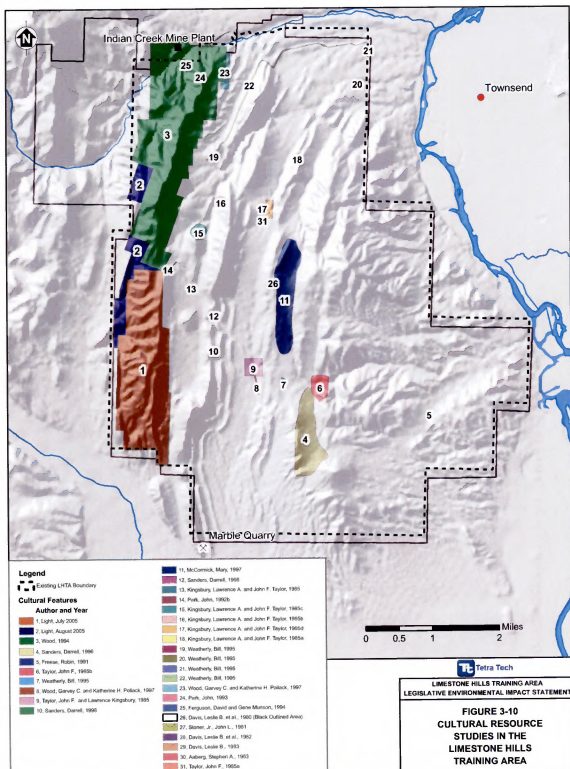
3.8.3 PREVIOUS CULTURAL RESOURCE INVENTORIES AND PLANNING DOCUMENTS PERTINENT TO THE LHTA

A number of cultural resource investigations have been conducted within the current LHTA right-of-way boundary and on adjacent lands (Figure 3-10). The most important of these is the 1979/1980 archaeological inventory funded by the Montana Department of Military Affairs and directed by Dr. Leslie B. Davis of Montana State University, Bozeman, Montana (Davis *et al.* 1980). The MTARNG funded this project at the request of the BLM in order to bring both agencies into compliance with provisions of the *National Historic Preservation Act*, and was a condition of the continued BLM renewal of the MTARNG's Special Land Use Permit. The boundary of the inventoried area included all of the area in the existing right-of-way grant, plus additional acreage north of Indian Creek, encompassing a total of 23,930 acres.

Much of what is known of the prehistory of the area is based upon the results of the 1979/1980 inventory, which identified 184 isolated artifacts, 77 prehistoric sites and 16 historic sites. Although the inventory was not conducted according to current standards, i.e., the transect interval was wider than current standards and subsurface testing was limited, it did result in the recordation of a representative sample of cultural resource properties that is sufficient to characterize the range of cultural resource properties within the LHTA.

In the Limestone Hills the evidence of pre-contact occupation includes campsites, lithic quarries, and features believed to be associated with communal game drives. Although the number of sites that can be assigned to functional categories is small relative to the total number of recorded sites, the overall number of these non-functionally diagnostic sites (usually described as "lithic scatters") indicates a relatively high level of use and, more importantly, reuse, during the pre-contact period.

The two sites of particular importance identified during the 1979/1980 inventory are the Indian Creek Site (24BW626), a deeply buried, multicomponent prehistoric site, and the Pilgrim Site (24BW675), an extensive, Late Prehistoric tipi ring campsite. Subsurface testing was conducted at both sites, and both were recommended eligible for listing in the National Register of Historic Places. Subsequent to the 1979/1980 inventory, an additional site has been nominated for the National Register of Historic Places by the Montana State Historic Preservation Office. All of the remaining prehistoric and historic sites recorded during the 1979/1980 project were recommended ineligible for listing in the National Register of Historic Places. However, because there is no record of concurrence from the Montana State Historic Preservation Office, the eligibility of these resources remains unresolved. Because of the potential for continuing disturbance from military training exercises, the Montana Department of Military Affairs financed a data recovery effort, the results of which were reported in 1982 (Davis *et al.* 1982).



GIS map by ERM Fig3-10_cultural_resources_110006.mxd
Data Source: MTAING GIS data

Archaeological studies conducted within the LHTA since 1980 have mostly been limited to small-scale surveys conducted for BLM- and MTARNG-sponsored undertakings. Examples include spring developments or the construction of observation bunkers. The exception is an inventory of the proposed expansion area for the Graymont mine. BLM archaeologists have conducted the majority of the inventories, while private cultural resources consulting companies have conducted some larger-scale projects. Table 3-24 lists the previous cultural resource inventories that have been conducted within the area currently permitted for MTARNG use.

The previous cultural resource inventories conducted within the current boundary of the LHTA right-of-way grant have resulted in the identification of 79 cultural resource properties. The majority of these are prehistoric archaeological sites, with a few historic sites. (See Appendix K for a list of previously recorded sites.) It should be noted that none of the previous cultural resource inventories has focused on the identification of other types of properties that may be eligible for listing in the National Register of Historic Places, such as designed or vernacular cultural landscapes (mining, ranching, or military), or traditional cultural properties. The Confederated Salish and Kootenai Tribes of the Flathead Reservation have indicated that they have an interest in the area, without identifying specific areas of concern.

3.8.4 NATIONAL HISTORIC LANDMARK OR NATIONAL REGISTER PROPERTIES WITHIN OR NEAR THE LHTA

One National Register-listed property is located within the boundary of the proposed LHTA withdrawal. This is site 24BW296, the McCormick Sign. It consists of an advertisement for the McCormick Livery Stable in Townsend, Montana, hand-painted on a rock outcrop. The property was listed in the National Register of Historic Places in 1981. One additional property located outside of the proposed withdrawal area, but inside the right-of-way boundary has been listed on the National Register: the Crow Creek Water Ditch site listed in 2001.

Besides the single listed property, three other properties have been determined eligible for listing in the National Register. These include the Pilgrim Site (24BV675) and another historical painted sign (24BW876). The Pilgrim Site was mitigated through data recovery in 1982.

3.8.5 SUFFICIENCY OF PREVIOUS CULTURAL RESOURCE INVENTORIES

The 1979/1980 inventory (Davis *et al.* 1980) covered the majority of the lands that will be affected by the proposed military withdrawal. Despite the fact that that inventory was not conducted according to current intensive inventory standards, both the MTARNG and the BLM have agreed that the previous inventory work conducted within the LHTA is sufficient to characterize the cultural resources that may be affected by the proposed military withdrawal. No inventories or other investigations, other than consolidation of information from previous studies, have been conducted specifically for preparation of this EIS.

**TABLE 3-24
CULTURAL RESOURCE INVENTORY REPORTS
AREAS WITHIN THE LHTA**

Author	Date	Title of Report	Agency/ Consultant
Davis, Leslie B. <i>et al.</i>	1980	Cultural Resources in the Limestone Hills Army National Guard Training Site	Montana State University
Kingsbury, Lawrence A. & John F. Taylor	1985a	Cultural Resources Class III Inventory Report: Abigale Spring	BLM
Kingsbury, Lawrence A. & John F. Taylor	1985b	Cultural Resources Class III Inventory Report: Tank Range	BLM
Kingsbury, Lawrence A. & John F. Taylor	1985c	Cultural Resources Class III Inventory Report: Limestone Spring	BLM
Kingsbury, Lawrence A. & John F. Taylor	1985d	Cultural Resources Class III Inventory Report: Weedy Spring	BLM
Kingsbury, Lawrence A. & John F. Taylor	1985e	Cultural Resources Class III Inventory Report: State Section	BLM
Taylor, John F.	1985a	Cultural Resources Class III Inventory Report: Mine Shaft Horizontal Well Development	BLM
Taylor, John F.	1985b	Cultural Resources Class III Inventory Report: Side Camp Spring Development	BLM
Taylor, John F. & Lawrence A. Kingsbury	1985c	Cultural Resources Class III Inventory Report: Loco Spring	BLM
Freese, Robin	1991	Cultural Resources Class III Inventory Report: Barrow Spring	BLM
Park, John	1992	Cultural Resources Class III Inventory Report: Tank Range Well and Stocktank	BLM
Park, John	1993	Cultural Resources Class III Inventory Report: Continental Lime Inc. B and C Block Amendment	BLM
Wood, Garvey C.	1994	Cultural Resource Management Report: Continental Lime, Inc. – Indian Creek Mine	Gar C. Wood and Associates
Ferguson, David & Gene Munson	1994	Class III Cultural Resource Inventory: Proposed Routes for the Indian Creek Road for Broadwater County	GCM Services, Inc.
Weatherly, Bill	1995	Cultural Resource Report for Small Scale Class III Inventories: National Guard / MPC Powerline Amendment and 1996 National Guard Training Activities	BLM
Sanders, Darrell	1996	Cultural Resource Report for Small Scale Class III Inventories: Crow/Indian Creek Prescribed Burns, FY 97	BLM
McCormick, Mary	1997	Green's Sign (24BW876) In the Indian Creek Canyon, Broadwater County: A National Register Evaluation and Intensive-Level Documentation	Renewable Technologies, Inc.
Wood, Garvey C. & Katherine H. Pollack	1997	Indian Creek Mine – North Ridge Extension	Gar C. Wood and Associates
Sanders, Darrell	1998	Cultural Resource Report for Small Scale Class III Inventories: National Guard Observation Bunkers	BLM
Light, Patrick	2005a	Class III Cultural Resource Inventory of Graymont Western US Inc., Limestone Hills Project, Broadwater County, Montana.	Lone Wolf Archaeology
Light, Patrick	2005b	Class III Cultural Resource Inventory of Graymont Western US Inc., Limestone Hills Project Additions, Broadwater County, Montana	Lone Wolf Archaeology

3.8.6 NATIVE AMERICAN CONSULTATION

A number federal laws and regulations require federal agencies to consult with Native American tribal entities when planning and implementing federal undertakings. These include:

National Historic Preservation Act (NHPA) of 1966 (as amended). The NHPA requires agencies to consult with Native American Tribes if a proposed federal action may affect properties to which they attach religious and cultural significance.

American Indian Religious Freedom Act of 1978 (AIRFA). AIRFA states that it the policy of the federal government will be to protect and preserve Native Americans' inherent right of freedom to believe, express, and exercise traditional religions. This includes the rights to access religious sites, to use and possess sacred objects, and the freedom to worship through ceremonies and traditional rights.

Archaeological Resources Protection Act of 1979 (ARPA). ARPA requires that federal land managers issue permits for the collection or excavation of archaeological properties located on federal lands. If the excavation will cause harm to an archaeological property, prior to issuing the permit, the federal land manager is further required to notify any Indian tribe that may consider the site as having religious or cultural significance.

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA). This law requires federal agencies to consult with tribes concerning the discovery and disposition of Native American burials (including human remains and burial goods), recovered from federal land.

Executive Order 13007, Indian Sacred Sites (May 24, 1996). EO 13007 requires that federal land managers accommodate access to and ceremonial use of Indian sacred sites, and that agency actions avoid damage to the physical integrity of these sites.

Department of Defense (DoD) American Indian and Alaska Native Policy (October 27, 1999). This establishes general policy for interacting and working with federally recognized American Indians and Alaska Natives. The principles are based upon tribal input, federal policy, treaties, and federal statutes. The policy supports tribal self-governance and government-to-government relations between the federal government and the tribes. DoD personnel are instructed to consider the unique qualities of individual tribes, recognizing the importance in increasing understanding and addressing tribal concerns, past, present and future. Tribal concerns should be addressed prior to reaching decisions on matters that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands.

In partial fulfillment of its consultation responsibilities, in 2003 the MTARNG sent copies of the proposed action via certified mail to nine tribal governments in order to solicit comments or concerns relative to cultural issues. Tribal governments contacted include: Blackfeet Tribal Business Council; Confederated Salish and Kootenai Tribal Council; Crow Tribal Council; Fort Peck Tribal Executive Board (Assiniboine and Sioux Tribes); Chippewa Cree Tribal Council; Fort Peck Community Council (Gros Ventre and Assiniboine Tribes); Shoshone-Bannock Tribes of the Fork Hall Reservation; Nez Perce Tribal Executive Committee; and, Northern Cheyenne Tribal Council. Copies of the letter sent to all Tribal governments and a letter recipient list are provided in Appendix G. The MTARNG Cultural Resource Manager followed up the mailings with phone calls to all groups except the Shoshone-

Bannock. The Fort Peck Community Council requested another copy of the proposed action. As of the date of the Draft EIS, none of the groups contacted has responded with comments or concerns over the proposed action.

The MTARNG will continue to consult with the tribes by sending copies of the EIS for review and comment. In addition to the groups contacted initially, in future consultation efforts the MTARNG will also include the Little Shell Band of Chippewa, which is nearing completion of the application process for federal recognition.

3.9 SOCIOECONOMIC RESOURCES AND ENVIRONMENTAL JUSTICE

The study area (region of influence) for population and demographics, housing, and community infrastructure includes Broadwater, Lewis and Clark, and Jefferson counties (Figure 3-11). The major communities in the region of influence are, in order of size, Helena, East Helena, Montana City, Townsend, and Clancy.

Information in this section was obtained from the U.S. Bureau of the Census based on the 2000 census data. Additional information was obtained from the "Population, Employment, Earnings, and Personal Income Trends" prepared by the Sonoran Institute for the BLM (2003), and from the *Broadwater County Growth Policy Plan* (2003), the *Lewis and Clark County Comprehensive Plan* (updated in 2000), and the *Jefferson County Growth Management Plan* (2003). In addition, personal communications were used to obtain specific information not otherwise available.

The region of influence is defined as the geographical area in which the principal direct and indirect socioeconomic effects of the proposed action and alternatives at LHTA are likely to occur. The study area for the socioeconomic section of this EIS is Broadwater, Lewis and Clark, and Jefferson counties (Figure 3-11). Broadwater County is included because the LHTA is located within its boundary. Lewis and Clark County is included because Fort Harrison is located within its jurisdiction. Although training exercises are conducted at the LHTA, the majority of personnel who administer and support the training are located at Fort Harrison and live in Lewis and Clark County. Jefferson County was added to the region of influence after using the National Guard Bureau major considerations to determine the socioeconomic region of influence (USACE 2002) and determining that 40 employees at Fort Harrison reside in the northern part of Jefferson County (Lynch 2006).

3.9.1 SOCIOECONOMIC SETTING

Table 3-25 presents basic population information for the individual counties and the region of influence. Detailed population and demographic information for each of the counties are available in the *Socioeconomics Specialist Report* (Lynch 2006).

BROADWATER COUNTY/TOWNSEND

In 2000, 4,382 people resided in Broadwater County, a 32 percent increase since the 1990 census, making it one of the fastest growing counties in the state. The median age in Broadwater County is 41.3 years (U.S. Census Bureau 2001). Broadwater County has a primarily rural population with several communities including Townsend, the county seat, and Winston, Toston, and Radersburg. Townsend had a population of 1,867 in 2000. The 2000 U.S. Census reports that there were 2,002 housing units in Broadwater County that housed 1,752 households. There were 2.47 persons per household. The median housing value was \$85,500 (U.S. Census Bureau 2001).

10-10-10

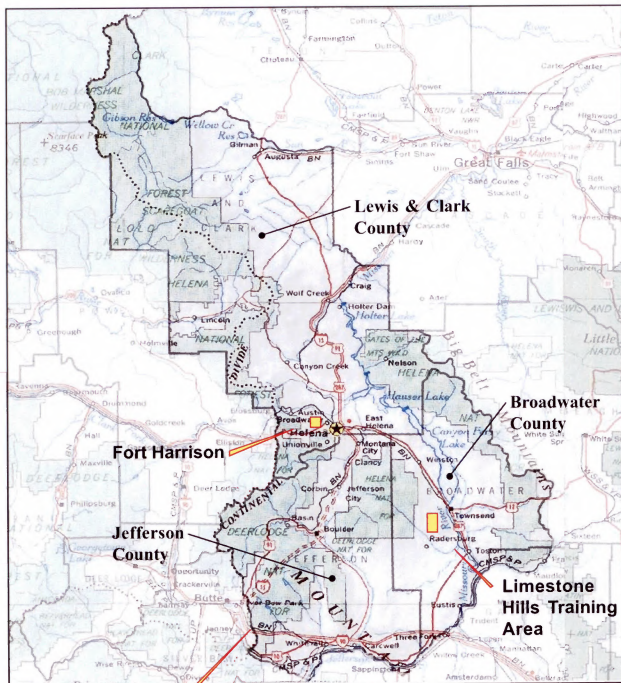
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LIMESTONE HILLS TRAINING AREA
LAND WITHDRAWAL
LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3-11
TRI-COUNTY REGION OF INFLUENCE
FOR SOCIAL AND ECONOMIC
RESOURCES

**TABLE 3-25
POPULATION BY COUNTY IN 2000,
AND STATE OF MONTANA**

Category	Year 2000	Percent Annual Change in Population 1990-2000
ALL RESIDENTS		
Broadwater	4,385	+32%
Lewis and Clark	55,716	+17%
Jefferson	10,049	+27%
Region of Influence ¹	70,150	+19.4%
Montana	902,195	+12.9%
MALE		
Broadwater	2,236	+32%
Lewis and Clark	27,360	+18%
Jefferson	5,045	+25%
Region of Influence ¹	34,641	+19.9%
Montana	449,480	+13.6%
FEMALE		
Broadwater	2,149	+32%
Lewis and Clark	28,356	+17%
Jefferson	5,004	+28%
Region of Influence ¹	35,509	+18.9%
Montana	452,715	+12.3%
UNDER 20 YEARS		
Broadwater	1,185	+15%
Lewis and Clark	15,840	+10%
Jefferson	3,050	+22%
Region of Influence ¹	20,075	+11.6%
Montana	257,440	+5.3%
65 YEARS AND OVER		
Broadwater	719	+32%
Lewis and Clark	6,533	+19%
Jefferson	1,035	+24%
Region of Influence ¹	8,287	+20.3%
Montana	120,949	+13.6%

Source: Sonoran Institute 2003.

- ¹ Region of influence is the area potentially influenced by the action alternatives for social and economic resources. It includes all of Broadwater, Lewis and Clark, and Jefferson Counties.

Since the 1970s, residential development has occurred on the west side of the Missouri River. Housing units in this area are adjacent to the LHTA northeast border, including the western shoreline of the Missouri River, and the merger points of Indian Creek, Old Woman's Grave, and River roads. Since 1970 more than 24 new houses have been built in the area on 1 to 2 acre lots. There are about 5 lots remaining for development (Jepson 2004). There are some larger parcels south of the river, which have yet to be developed. The old Springerville townsite is slightly to the north and contains 12 new housing units.

LEWIS AND CLARK COUNTY

Lewis and Clark County comprises 3,461 square miles with 16.1 people per square mile and had a total population of 55,716 people in 2000. Lewis and Clark County grew by over 17 percent between 1990 and 2000. The median age in Lewis and Clark County is 38.0 years (U.S. Census Bureau 2001). Lewis and Clark County contains several small rural communities, but only Helena and East Helena are incorporated. Helena, the state capital, reported a population of 25,780 during the 2000 census with 1,642 people residing in East Helena (U.S. Census Bureau 2002).

The 2000 U.S. Census reports that there were 25,672 housing units in Lewis and Clark County that housed 22,850 households. There were 2.38 persons per household. Lewis and Clark County had a home ownership rate of 70.1 percent in 2000. The median housing value was \$112,200 (U.S. Census Bureau 2001). With the exception of long-term patients at the Veterans' Administration Hospital, no one posted to Fort Harrison lives there as a full time resident.

JEFFERSON COUNTY

There are two Census Designated Places in northern Jefferson County that are functionally communities of Helena: Montana City (2000 population of 2,094) and Clancy (2000 population of 1,406). Growth in these two Census Designated Places has been significant in the last 10 years; neither of them were even enumeration districts in the 1990 census.

The 2000 U.S. Census reports that there were 4,199 housing units in Jefferson County that housed 3,747 households. There was an average of 2.62 persons per household. Jefferson County had a home ownership rate of 83 percent in 2000. The median housing value was \$128,700 (U.S. Census Bureau 2001).

POPULATION PROJECTIONS

Historically, Montana has been one of the slowest growing states in the United States. In fact the population is not expected to pass the 1,000,000 mark until 2015, growing at a rate of approximately 1 percent per year from the 2000 census estimates (Table 3-26). The individual counties and the region of influence total are expected to grow much faster in the same time period, with the population of Jefferson County expected to grow the fastest (over twice as quickly as the state as a whole).

**TABLE 3-26
POPULATION PROJECTIONS BY COUNTY,
TRI-COUNTY REGION OF INFLUENCE AND STATE OF MONTANA**

Area	2000 Census	2005 Projection	2010 Projection	2015 Projection	Percent Change 2000-2015
Broadwater County	4,385	4,760	5,140	5,520	25.9 %
Lewis and Clark County	55,716	59,670	64,170	68,780	23.4 %
Jefferson County	10,049	11,230	12,260	13,280	32.2 %
Tri-County ROI	70,150	75,660	81,570	87,580	24.8 %
Montana	902,195	942,580	989,190	1,039,490	15.2 %

Note:

ROI Region of Influence

Source: NPA Economic Research and Data Services, Inc. 2004.

3.9.2 ECONOMIC ACTIVITY

The tri-county region of influence for economic activities supported 45,540 full- and part-time jobs in 2000, an increase of 25,314 jobs since 1970 (an annual average increase of 4 percent, more than twice the population growth in the region of influence during the same timeframe). Information on economic activities for each county is presented in the *Socioeconomics Specialist Report* (Lincoln 2006).

The job mix for the region of influence has changed significantly since 1970. The farm and agricultural services, manufacturing, and government sectors have decreased their shares of total employment, while mining and construction have marginally increased (Table 3-27). The services and professional sector has experienced the most growth in the number of jobs in the region of influence, led by significant increases (over 100 percent in 30 years) in services (health, legal, business, and others); wholesale trade; retail trade; and finance, insurance, and real estate. Transportation and public utilities has increased at a rate similar to the growth in the construction sector.

According to the Lewis and Clark County Growth Policy (LCCPD 2004), "Lewis and Clark County in general and Helena/East Helena in particular, drive the regional economy (defined as Lewis and Clark, Broadwater, Jefferson, and Meagher counties) and are the source of the majority of jobs and earnings in the area." The Demographics and Economics section of the Policy notes that "a growing number of people who earn their living in Lewis and Clark County reside outside the County. From 1970 to 2000 the amount of money earned in Lewis and Clark County by non-residents increased from \$8 million to \$101 million, a 1,200 percent jump" (LCCPD 2004).



Fort William Henry Harrison, Helena, Montana



**View from Training Range at Fort Harrison
Helena, Montana in Background**

**TABLE 3-27
EMPLOYMENT BY INDUSTRY, CHANGES FROM 1970 TO 2000
TRI COUNTY REGION OF INFLUENCE**

Industry	1970	Percent of Total for 1970	2000	Percent of Total for 2000	New Employment	Percent of New Employment
Farm and Agricultural Services ¹	1,202	5.9 %	1,853	4.1 %	651	2.8 %
Mining ²	87	0.4 %	522	1.1 %	435	1.7 %
Manufacturing	1,166	5.8 %	1,861	4.1 %	695	2.7 %
Services and Professional ³	10,393	51.3 %	28,204	61.9 %	17,811	70.4 %
Construction	1,018	5.0 %	2,625	5.8 %	1,607	6.3 %
Government	6,380	31.5 %	10,495	23.0 %	4,115	16.3 %
Total Employment	20,246	100%	45,560	100%	25,314	100%

Source: Sonoran Institute 2003

Notes:

- 1 Farm and agricultural services include soil preparation services, crop services, etc. It also includes forestry services (such as reforestation), and fishing, hunting, and trapping.
- 2 Manufacturing services include paper, lumber, and wood products manufacturing.
- 3 Services and professional includes transportation and public utilities, wholesale trade, finance, insurance and real estate, and health, legal, and other services.

Income: Personal income is defined as all income received by individuals from all sources; income from work (labor income or earning), income from non-labor sources such as income from savings and investments (investment income), and income from outside sources such as Social Security or Medicare (transfer payment income). For the tri-county region of influence, non-labor income was about 50 percent of total personal income in 2000, unadjusted for residence, social security, or other factors. Average annual earnings per job vary between \$19,738 in Jefferson County to \$27,615 in Lewis and Clark County (Table 3-28).

**TABLE 3-28
INCOME BY TYPE
FOR THE REGION OF INFLUENCE IN 2000**

Income Category	Broadwater	Lewis and Clark	Jefferson	Total ROI Income
Labor Income				
Wage and Salary Income	\$30,000,000	\$841,000,000	\$60,000,000	\$931,000,000
Other Labor Income	\$4,000,000	\$114,000,000	\$9,000,000	\$127,000,000
Proprietor's Income	\$10,000,000	\$118,000,000	\$22,000,000	\$150,000,000
Non-Labor Income				
Investment Income	\$19,000,000	\$304,000,000	\$45,000,000	\$368,000,000
Transfer Payment Income	\$17,000,000	\$186,000,000	\$31,000,000	\$234,000,000
Average Earnings per Job	\$21,519	\$27,615	\$19,738	NA

Source: Sonoran Institute, 2003

NA = Not applicable

ROI = Region of Influence

Median household income and per capita income are commonly used to understand the relationship within a community or county with regard to personal income. Broadwater County outperformed the State of Montana and the other counties in the region of influence with respect to growth in median household income and per capita income between 1989 and 1999. Lewis and Clark County residents have median household incomes above the state average, and those incomes are increasing at a healthy rate based on job growth. Jefferson County has the highest median household income and per capita income in the region of influence, although that growth is not as robust as in the state or the other counties in the region of influence. Income growth within Jefferson County does not appear to be directly tied to job growth, probably because many county residents work in Lewis and Clark County (Tables 3-29 and 3-30).

TABLE 3-29
MEDIAN HOUSEHOLD INCOME IN 1989 AND 1999
REGION OF INFLUENCE AND STATE OF MONTANA

Area	1989*	1999**	Percent Change Between 1989 and 1999
Broadwater County	\$20,257	\$32,689	+61.3%
Lewis and Clark County	\$26,409	\$37,360	+41.5%
Jefferson County	\$31,400	\$41,506	+32.2%
State of Montana	\$22,988	\$33,024	+43.7%

Sources:

* U.S. Census Bureau 1997

** U.S. Census Bureau 2000

TABLE 3-30
PER CAPITA INCOME IN 1989 AND 1999
REGION OF INFLUENCE AND STATE OF MONTANA

Area	1989*	1999**	Percent Change 1989-1999
Broadwater County	\$10,125	\$16,237	+60.4%
Lewis and Clark County	\$12,342	\$18,763	+52.0%
Jefferson County	\$13,233	\$18,250	+37.9%
State of Montana	\$11,213	\$17,151	+52.8%

Sources:

* U.S. Census Bureau 1997

** U.S. Census Bureau 2000

Unemployment in the individual counties of the region of influence and the state has remained consistently low over the last four years, indicating the relative economic stability of the region of influence (Table 3-31).

TABLE 3-31 ANNUAL PERCENT UNEMPLOYMENT BETWEEN 2000 AND 2003 REGION OF INFLUENCE AND STATE OF MONTANA				
Area	2000	2001	2002	2003
Broadwater County	4.7 %	5.5 %	4.0 %	4.9 %
Lewis & Clark County	4.3 %	4.4 %	4.3 %	3.9 %
Jefferson County	5.4 %	4.6 %	4.6 %	4.7 %
State of Montana	5.0 %	4.6 %	4.6 %	4.7 %

Source: U.S. Department of Labor 2004

Fort Harrison: Fort Harrison functions as a "basic industry" in the State of Montana and the region of influence economy. "Basic industries" are those business and government activities that bring outside income into an area economy. By paying salaries and making purchases with non-local monies, the MTARNG's use of Fort Harrison and the LHTA provides a foundation for state, regional, and local county economic development by:

- Direct employment by the MTARNG and the Army through expenditure of per diem and personal monies by soldiers
- Purchases of goods and services by MTARNG and the Army
- Capital improvements
- Special projects such as the UXO clean up effort

The Montana Department of Military Affairs estimates that almost \$45 million was spent in Helena for Army and Air National Guard activities in fiscal year 2003 (DMA 2004).

Direct Employment: In fiscal year 2003, the Montana Department of Military Affairs employed 3,571 people in full- and part-time jobs in the State of Montana, including:

- 2,448 people in the Army National Guard
- 1,016 people in the Air National Guard
- 22 people in Veterans Affairs
- 29 people in Disaster and Emergency Services
- 47 people in the ChalleNGe Program
- 9 people in Centralized Services

Salaries and expenditures statewide were almost \$130 million dollars. Over 3,400 of these employees are citizen soldiers and airmen (called the Traditional Guard) assigned to units in 22 Montana communities. Traditional guardsmen earned over \$28 million for their participation. Full-time workers in the Army and Air National Guards earned over \$35 million in fiscal year 2003 (DMA 2004). Individual salaries are significantly higher than county or statewide per capita incomes. The average base wage for MTARNG employees (approximately \$44,000 [Frost 2005]) is significantly higher than the 2000 average earnings per job in Lewis and Clark County of \$27,515.

The Army National Guard employs approximately 170 full-time positions at Fort Harrison and about 65 full-time staff at the Army Aviation Support Facility, located nearby in Lewis and Clark County. This accounts for less than 1 percent of the county's total employment. There are approximately 350 MTARNG members at Fort Harrison and 250 at the Army Aviation Support Facility. Most of these part-time MTARNG employees live in Helena and have full-time jobs in addition to their MTARNG membership.

Purchases of goods and services: Statewide, the Department of Military Affairs spent over \$20 million on purchasing goods and services in fiscal year 2003 (DMA 2004). Lewis and Clark County businesses benefit directly from MTARNG expenditures for food supplies and other requirements to support weekend users. The MTARNG has a "milstrip" program which is used to pay for local purchases within the state. Of the \$18,720,196 spent in fiscal year 2003 for local purchases and repair parts, over \$15,260,000 (81.5 percent of the total) was spent in Helena (MTARNG 2004b).

Capital improvements: More than \$20 million in military construction was completed in fiscal year 2003 and over 90 percent of this amount came from the federal government. Numerous construction projects were completed at Fort Harrison including a second basic officer quarters, a support facility shop for the LHTA, a tool recycling facility, and a micro-turbine generator facility. A range tower and an ammunition dock were completed at LHTA (DMA 2004).

Special projects: Unexploded ordnance (UXO) investigation and remediation (clearance) activities have been ongoing since 1995 on a portion of the LHTA. Almost \$2.4 million has been spent on the UXO cleanup since 1995, with \$1,312,000 spent in 2004 (West 2004).

LHTA

While the MTARNG does not have any permanent employees located at the LHTA, on a typical monthly drill weekend, 300 to 400 soldiers are at Fort Harrison and the LHTA for training. Up to 10 active duty evaluators attend each training event. These evaluators stay at motels in Townsend during their stays (Cook 2004a).



Missouri River Valley from the Limestone Hills Training Area



Soldier in Training at the LHTA

In addition, units from outside Montana use the ranges and other facilities at Fort Harrison and LHTA for training. The 450 servicemen/women of the U.S. Army Special Forces trained at the LHTA in 2004 because the terrain contains unique features that resemble Afghanistan where these troops were to be deployed. Over a 6-week period, 70 troops at a time rotated through the LHTA. The Special Forces unit reimburses the MTARNG to purchase food and other supplies from local stores for the trainees (Schneider 2005).

In 2004, the MTARNG budget for catered meals and other goods and services needed for training exercises at the LHTA was \$166,000 (Cook 2004a). In addition, trainees are allowed offsite and purchase goods and services in Townsend during those periods.

BROADWATER COUNTY

Broadwater County is dominated by mining and agriculture. Travel and recreation account for only three percent of personal income and three percent of the jobs in Broadwater County (Broadwater County Planning Board [BCPB 2003]). Townsend has seven restaurants listed in the yellow pages, as well as local retail stores and a grocery store. Some of the restaurants and retail establishments are seasonal and rely heavily on summer recreation at nearby Canyon Ferry Reservoir. See the *Socioeconomics Specialist Report* for full details on the employment industry changes in Broadwater County (Lincoln 2006).

Mining: There are currently 414 BLM-managed mining claims within the LHTA. Each claim is charged a \$125 annual maintenance fee, which goes into the BLM general fund to manage mining activities. Graymont owns approximately 368 of the unpatented mining claims (Kirk 2007). Graymont paid approximately \$11,000 to the state Resource Indemnity Trust Tax in 2003 (Chorney 2004). There are no federal or state royalties accruing from the claims (Hughes 2004).

Graymont Mine: Graymont's Indian Creek facility is one of Broadwater County's 10 largest private employers and is classified as a basic industry. Since its startup in the early 1980s under the management of Continental Lime Company (now Graymont), the limestone mine has evolved into an important contributor to the Broadwater County/Townsend economic base. In 2003, Graymont's mining and process operations employed approximately 36 people (Chorney 2004) with an annual salary and hourly payroll of \$1,162,137, and spent another \$2,675,526 in purchases from Montana vendors (Chorney 2004). In 2005, Graymont employed 27 workers directly and contracted 11 other jobs through Quarry Services, accounting for 43 percent of the mining jobs in the county and 0.2 percent of total employment in the county. In addition, Graymont paid \$195,808 in property taxes in 2003 to Broadwater County, as well as \$47,490 on the net proceeds (the taxable value of Graymont Western's lime operations [BCPB 2003] in 2004 [Brown 2005]).

Grazing: While farm and agricultural services only account for 18 percent of the Broadwater County employment, the land surrounding the LHTA is predominately ranch land. BLM manages seven grazing allotments within the LHTA. In 2003, the leases allowed for grazing of a total of 3,223 Animal Units

Monthly (AUM) charged at \$1.35 per year per AUM. There is one sheep operation; the others are cattle operations. In 2003, livestock leases generated about \$3,900 in revenue to the BLM (Hartmann 2004).

The State of Montana owns two parcels of land within the LHTA, which in addition to being leased to the MTARNG is also leased for grazing. Animal Units Monthly annual fees are much higher than those charged by the BLM. In 2003, each of 119 Animal Units Monthly on one state parcel cost the permittee \$5.48, while on the other state parcel, the permittee was charged \$4.88 per AUM for each of 82 AUM. These two leases generated over \$1,050 grazing revenues to the state in 2003 (Kellogg 2004.)

While it was not the intention of the BLM, grazing privileges, which ride with ownership of the land, have increased property values on ranches that hold them. It is impossible to give a firm percentage increase in value because of differences in the size of the deeded parcel and the AUM allowed on a permitted parcel. Joe Jepson, a realtor in Townsend, reports that the value of the deeded parcel would increase because of the permitted parcel (Jepson 2004). One way of estimating the value of a BLM grazing privilege is to compare the cost of an AUM with that of the state and with private landowners who may rent their grazing lands (Smith 2004). The difference is the implied value to the permittee.

Government and Public Finance: In fiscal year 2003, Broadwater County had a budget of \$6,316,310. The two primary sources of local government revenues in Montana are intergovernmental transfers (funds passed through from federal and state governments, such as grants-in-aid and payments in lieu of taxes [PILT] for federally owned lands for foregone property tax revenues) and local taxes and assessment. In fiscal year 2003, the BLM paid \$385,936 (6.1 percent of the budget) to Broadwater County for compensation for BLM and other federal lands within the county, including the LHTA (Tomco 2004). The BLM estimates that approximately \$26,000 of the total PILT payment was for the LHTA (Hartmann 2004). Lands managed by the military are not part of the PILT program.

Of the \$4.56 million collected in taxes in fiscal year 2003 (Table 3-32), \$2,870,686 (62.9 percent of total property tax receivables) was collected as residential and commercial property tax.

TABLE 3-32 ESTIMATED BROADWATER COUNTY PROPERTY TAX RECEIVABLES FISCAL YEAR 2003	
Type of Property Tax	Property Tax Amount
Real Estate Property Tax	\$2,780,156
Mobile Home Tax	\$90,530
Personal Property Tax	\$91,429
Gross and Net Proceeds (Graymont)	\$48,490
Utilities	\$1,550,571
Total	\$4,561,175

Source: Gillespie 2004



City of Helena Looking Directly North



City of Townsend

LEWIS AND CLARK COUNTY

As the capital of Montana and a regional shopping center for both the LHTA and Fort Harrison, Helena offers a wide range of shops and services. One major shopping mall and several smaller malls supplement the individual retail establishments located on the major transportation routes and in the downtown area. The Major "box" stores, such as Wal-Mart, Target, Costco, Lowe's, and Home Depot are located in Helena. Nearly 100 restaurants are listed in the local yellow pages, including most national fast food chains and local specialty restaurants.

Lewis and Clark County and Helena have a long record of economic stability due in part to the location of state government in Helena. Federal, state, and local governments account for 24 percent of the employment in Lewis and Clark County, including government offices, the Helena School District, and the Fort Harrison Veteran's Administration hospital. Other major employers include St. Peters Hospital and several health care facilities; Carroll College, a private Catholic college; the University of Montana College of Technology; various industrial, manufacturing, and commercial businesses; and agricultural operations in the northeast and southeast portions of the Helena valley.

According to the Economic Profiling System, the fastest growing categories are services, which include health, business, legal, engineering, and management services (32 percent of total employment in 2000). Retail trade accounts for 17 percent of total employment. The majority of the growth in government employment has been in state and local government. Over the last 30 years, job growth in Lewis and Clark County has outpaced that of the state and the nation (Sonoran Institute 2003). See the *Socioeconomics Specialist Report* for full details on the employment industry changes in Lewis and Clark County (Lyncoln 2006).

Government and Public Finance: In fiscal year 2003, Lewis and Clark County had budgeted expenditures of \$41,664,433. Total county-wide assessed valuation was over \$3.3 billion with a taxable value of over \$121 million (Lewis and Clark County 2002). Mill rates vary by area based on school and other special district assessments. The MTARNG does not pay property tax for the Fort Harrison complex.

JEFFERSON COUNTY

The Jefferson County Growth Policy (JCPB 2003) recognizes that the economy is tied to the region. An objective under the goal of "sustain and strengthen the economic well being of Jefferson County citizens," states:

"Support economic development activities throughout southwest Montana in recognition of Jefferson County's interdependence with surrounding employment centers and the needs of citizens for goods, services, and other urban amenities available in surrounding communities."

Government and Public Finance: In fiscal year 2003, Jefferson County had budgeted expenditures of \$6,417,751. Total county-wide assessed valuation was over \$526 million with a taxable value of almost \$20 million. The taxable value of net and gross proceeds was just over \$2.5 million (Ramey 2004). Residential property taxes are paid by property owners' wages.

3.9.3 ENVIRONMENTAL JUSTICE

On February 11, 1994, President Clinton issued Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. The purpose of the order is to avoid the disproportionate placement of adverse environmental, economic, social, or health effects from federal actions and policies on minority and low-income populations. The first step in analyzing this issue is to identify minority and low-income populations that might be affected by implementation of the proposed action or alternatives. Demographic information on ethnicity, race, and economic status is provided in this section as the baseline against which potential effects can be identified and analyzed.

IDENTIFICATION OF MINORITY AND LOW INCOME POPULATIONS

The Council on Environmental Quality identifies these groups as environmental justice populations when either (1) the minority or low-income population of the affected area exceeds 50 percent or (2) the minority or low-income population percentage in the affected area is meaningfully greater than the minority population percentage in the general population or appropriate unit of geographical analysis. In order to be classified meaningfully greater, a formula describing the environmental justice threshold as being 10 percent above the State of Montana rate is applied to local minority and low-income rates. For purposes of this section, minority and low-income populations are defined as follows:

Minority populations are persons of Hispanic or Latino origin of any race, African Americans, American Indians or Alaska Natives, Asians, and Native Hawaiian and other Pacific Islanders.

Low-income populations are persons living below the poverty level. In 2000, the poverty weighted average threshold for a family of four in the U.S. was \$17,603 and \$8,794 for an unrelated individual.

Estimates of these two populations were then developed to determine if environmental justice populations exist in the region of influence (Table 3-33).

In 2000, the three county region of influence contained 70,150 persons, of which approximately 3,773 (5.3 percent) were minorities and approximately 7,451 (10.6 percent) were living below the poverty level. Minority and low-income populations were consistently lower in each of the counties in the region of influence than for the State of Montana. No environmental justice populations exist in the region of influence.

TABLE 3-33			
MINORITY POPULATIONS AND LOW-INCOME POPULATIONS IN TRI-COUNTY REGION OF INFLUENCE FOR 2000			
Location	Total Population	Percent Minority	Percent Below Poverty (1999)
Broadwater County	4,385	3.9 %	10.8 %
Lewis and Clark County	55,716	5.6 %	10.9 %
Jefferson County	10,049	4.8 %	9.0 %
Tri-County ROI	70,150	5.3 %	10.6 %
State of Montana	902,195	10.5 %	14.6 %

Source: U.S. Census Bureau 2001

ROI = Region of Influence

PUBLIC INVOLVEMENT AND ENVIRONMENTAL JUSTICE

The *National Guard Bureau National Environmental Policy Act* (U.S. Army Corps of Engineers [USACE] 2002) encourages an environmental justice scan prior to public scoping of the proposed project to ensure that minority and low-income populations are included in the range of public involvement activities. Public involvement meets two requirements of Executive Order 12898:

- it aids in identifying minority and low-income groups, and
- it provides the means for these groups to participate in federal decision-making that might affect them (USACE 2002).

A full description of the LHTA EIS public involvement process is located in the Scoping Report (MTARNG 2005a). Persons and organizations known or thought to have a potential interest, including minority, low-income, disadvantaged, and Native American groups, were identified, informed, and given the opportunity to participate in the decision-making process (USACE 2002).

3.9.4 PROTECTION OF CHILDREN

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), recognizes a growing body of scientific knowledge that demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because (1) children's bodily systems are not fully developed, (2) children eat, drink, and breathe more in proportion to their body weight, (3) their size and weight may diminish protection from standard safety features, and (4) their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The President also directed each federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Children are infrequently present at the LHTA as visitors at open house events. On such occasions, the MTARNG has taken and will continue to take precautions for their safety using a number of means, including fencing, limitations on access to certain areas, and provision of adult supervision.

3.10 INFRASTRUCTURE AND HAZARDOUS MATERIALS

This section describes transportation and hazardous materials at the LHTA. Specific facilities address potable water supply, wastewater treatment, solid waste management, energy resources, and roadways and traffic within the affected environment. Hazardous materials at the LHTA consist primarily of unexploded ordnance. Rights-of-way permitted by the BLM are also described. The study area for infrastructure and hazardous materials includes all land within the existing LHTA boundary (Figure 1-2).

3.10.1 TRANSPORTATION ROUTES

The LHTA is traversed by three county roads and numerous unpaved, user-developed roads. In addition, one railway is in the vicinity of the LHTA.

ROAD NETWORK

Highway 12 and 287 is a heavily-used concrete and asphalt, two-lane highway located about a mile east of the LHTA. Highway 12/287 runs north-south and is the major connecting road between Fort Harrison in Helena, Montana, and the LHTA. The highway provides access to the LHTA via intersection with Indian Creek Road. Highway 12/287 currently operates under the U.S. Department of Transportation and Montana Department of Transportation (MDT). The average daily number of vehicles using Highway 12/287 in 2002 was 5,377 at Station A-2, nine miles south of Helena, Montana, and 4,581 at Station A-101, Townsend, Montana (MDT 2002).

The LHTA is traversed by three county roads: (1) Old Woman's Grave Road runs north-south through the center of the LHTA, (2) River Road runs north-south adjacent to the boundary of the proposed LHTA withdrawal area and transects a portion of the LHTA; and (3) Indian Creek Road traverses the far northwest corner of the LHTA (Figure 2-1). These roads fall under the supervision of Broadwater County, Montana, and are considered improved roads, open to yearlong motorized travel where not otherwise restricted (BCPB 2003). Old Woman's Grave Road and River Road have graded gravel surfaces and provide access to several rights-of-way which are currently held within the boundary of the LHTA. Presently, the BLM maintains a right-of-way on the length of Old Woman's Grave Road traversing the LHTA. Additionally, several unnamed roads administered by the BLM provide access to areas within the LHTA. These unnamed access roads are not maintained. Figure 3-3 shows all roads traversing the LHTA.

RAILWAYS

One commercial rail carrier, Montana Rail Link, runs parallel to U.S. Highway 12/287 in a north-south direction between Helena, Montana and LHTA. This railway is crossed by Indian Creek Road, which serves as a primary entrance to the LHTA; however, the Montana Rail Link line does not enter any portion of the LHTA. Figure 3-3 shows the Montana Rail Link Line (Elkhorn 1998).

3.10.2 UTILITIES AND SERVICES

Other than stock water for grazers, the MTARNG is the sole entity on the LHTA that develops and uses utilities and services.

WATER SUPPLY AND WASTEWATER TREATMENT

Water supply in the LHTA is provided to individual locations by groundwater wells. See Section 3.5 for groundwater well information. The majority of wells provide water supply for agricultural resources. Water is supplied to MTARNG facilities within the LHTA by two separate groundwater wells. Currently there is no water treatment employed at the LHTA; however, the MTARNG plans to employ an ultraviolet light system for the treatment of coliforms.

Wastewater derived from MTARNG facilities within the LHTA is collected in conventional septic tanks and discharged to drainfields and lagoons. Approximately 2,000 gallons of wastewater are discharged per year (Cook 2005).

SOLID WASTE DISPOSAL

Solid waste accumulated from the LHTA is stored in a roll-off dumpster, collected by a private contractor and transported to the Broadwater County transfer station (Cook 2004). Solid waste derived from Broadwater County is collected in 40 cubic yard roll-off containers and temporarily stored at the Broadwater County transfer station. The containers are subsequently transported to City-County Sanitation, Inc. (BCPB 2003).

ENERGY RESOURCES

Electrical service is provided to the LHTA by NorthWestern Energy through an underground electrical transmission line branched off Broadwater County transmission facilities. Two facilities, including a range support facility and observation tower are terminations for this transmission line. Additionally, a section of electrical transmission line owned by Bonneville Power traverses a section of the LHTA; however, this line does not terminate to any facilities within the LHTA. The LHTA is not serviced with natural gas; however, a section of the Yellowstone Pipeline currently traverses the LHTA at Township 6 North, Range 2 East, Section 20 (Beals 2004; Elkhorn 1998; Cook 2004a). See Figure 3-3 for the location of the electrical transmission lines and natural gas pipelines.

COMMUNICATIONS

Currently the MTARNG has one analog phone line provided by Qwest communications. The Qwest line provides communications service for the range support facility located within the LHTA boundary. Additionally, the MTARNG uses a radio network for communications support within the LHTA. The

radio communications network consists of a base station located in Helena at Fort Harrison and one radio repeater site located in Broadwater County, outside the LHTA (Beals 2004, Cook 2004a).

3.10.3 STRUCTURES

With the exception of the Graymont mine permit area, all structures currently in place within the LHTA are owned and maintained by the MTARNG. A list of structures and other facilities is provided in Section 3.1.2, Tables 3-5 and 3-6.

3.10.4 RIGHTS-OF-WAY

All rights-of-way held on land within the LHTA are used for infrastructure purposes. Currently, the MTARNG is the holder of the largest right-of-way within the LHTA; however, several rights-of-way that provide transportation, electrical and energy, and communications corridors are held within the LHTA by private and public agencies (Figure 3-3).

Approximately 18,715 acres of BLM-administered land in the Limestone Hills west of Townsend are under a right-of-way grant with the MTARNG for military training purposes. The current right-of-way grant went into effect in 1984 and expires in 2014 (Appendix A).

In addition to military training use, several non-military rights-of-way are held within the LHTA that provide support of regional and local infrastructure and access. Currently there are 14 rights-of-way held in the LHTA including the rights-of-way currently held by the MTARNG (Beals 2004).

Currently, the BLM has four transportation rights-of-way in the LHTA. These rights-of-way include Old Woman's Grave Road and several unnamed, unpaved roads that provide access to remote areas and other rights-of-way within the LHTA. All BLM roads are designated as open to motorized use yearlong with periodic designated road closures (Walsh 2004). Additionally, Broadwater County has an access road right-of-way originating from Indian Creek Road in the southeast ¼ of the northeast ¼ of Section 26, Township 7 North, Range 1 East (Beals 2004).

Energy-related rights-of-way within the LHTA are currently held by NorthWestern Energy, Bonneville Power, and Yellowstone Pipeline company. NorthWestern Energy holds two rights-of-way within the LHTA. The first right-of-way held by NorthWestern Energy is for a 7.2/12.5 kilovolt high-voltage electric transmission line running north-south through the LHTA. This elevated transmission line is approximately 35,130 feet in length along a 20-foot wide corridor through the LHTA. The second right-of-way held by Northwestern Energy is for a 7.2 kilovolt high-voltage electric transmission line that provides power for MTARNG facilities within the LHTA. The second transmission line is buried five feet underground and is approximately 1,324 feet in length along a right-of-way 20-foot corridor. Bonneville Power holds a single right-of-way within the LHTA for a 500 kilovolt, double circuit high-voltage above-ground transmission line and an accompanying access road running through the southeastern portion of the LHTA. This right-of-way has a total length of 266,700 feet and a varying

width throughout the right-of-way corridor. The Yellowstone Pipeline Company holds a single right-of-way within the LHTA for a buried 10-inch natural gas pipeline. This right-of-way is 32,424 feet in length and 50 feet wide (Beals 2004).

Communications rights-of-way within the LHTA are currently held by Qwest Corporation, WWC Holding Company, and Broadwater County. Broadwater County holds a single 10,000 square foot communication right-of-way for a radio antenna array. WWC Holding holds a single 90,000 square foot communication right-of-way for a 100 foot communications tower. Broadwater County and WWC Holdings rights-of-way are located in the approximate same section in the eastern portion of the LHTA. Qwest Company holds two separate rights-of-way within the LHTA. Both rights-of-way held by Qwest are for buried telecommunications lines with the first right-of-way in the LHTA being 9,950 square feet long and 20 feet wide. The second right-of-way held by Qwest in the LHTA is 4,290 feet long and 10 feet wide and provides telecommunications access for MTARNG facilities within the LHTA (Beals 2004).

Table 3-34 describes all rights-of-way held within the LHTA and Figure 3-2 shows all rights-of-way within the LHTA. There is potential for the authorization of additional rights-of-ways by BLM to other applicants.

3.10.5 HAZARDOUS MATERIALS MANAGEMENT

MTARNG LHTA personnel follow a hazardous material and waste management plan (hazard management plan) that prescribes responsibilities, policies, and procedures for storing and managing hazardous materials and wastes at MTARNG facilities throughout the state. Required by Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*, the hazard management plan was developed to ensure MTARNG compliance with applicable federal, state, and local laws and regulations. The plan was last updated in April 2006. The LHTA hazard management plan identifies individual responsibilities and procedures for managing and transporting hazardous materials and hazardous waste, including training, inspections, record keeping, and spill response protocol (Engineering-Environmental Management, Inc. 2006).

At LHTA, two divisions within the MTARNG use hazardous materials: the Training Site Division and the Equipment Site Division. The Training Site Division uses four hazardous materials cabinets at LHTA. These cabinets are inventoried every two years. The inventory performed in January of 2004 indicated the cabinets contain miscellaneous greases, oils and lubricants; antifreeze; battery cleaner; gasoline stabilizers; brake fluid; transmission oil; polyvinyl chloride (PVC) cement and cleaner; deicer; and various types of paint. The unit training Equipment Site Division is responsible for vehicle maintenance conducted at Fort Harrison. Small vehicle repairs take place at LHTA. In addition, mobile solvent units are used at LHTA to clean artillery. The used solvent in these units is exchanged for clean solvent by the solvent supplier to the MTARNG at Fort Harrison.

As required by the hazard management plan, a bound copy of material safety data sheets are available for each hazardous chemical stored at LHTA and are located at the right-to-know center in the range

support facility which is located in the cantonment area (Figure 3-2). At LHTA, no hazardous chemicals are stored above the reporting limit specified in the *Emergency Planning and Community Right-to-know Act* Section 312.

TABLE 3-34
RIGHTS-OF-WAY HELD IN THE LIMESTONE HILLS TRAINING AREA

Map No ¹	Right-of-Way Number	Right-of-Way Holder	Type of Right-of-Way	Township, Range, Section	Expiration Date	Rental Payments*
1	M59955	MTARNG	Military Use	Multiple	2014	No Rent
2	MontanaM068598	Qwest Corporation	Telephone and Telegraph	T6N, R1E S1, 12, 28, 34	Permanent	\$2,447.70 for 30 years
3	MontanaM084657	Qwest Corporation	Telephone and Telegraph	T7N, R1E S25, 26	Permanent	\$103.30 for 5 years
4	MontanaM046322	Broadwater County	Communication Site	T6N, R1E S13	08/11/2010	No Rent
5	MontanaM081381	WWC Holding Company	Communication Site	T6N, R1E S13	02/10/2018	\$3,394.86 for 1 year
6	MontanaM060926	Northwestern Energy	Power Transmission	Multiple	Permanent	\$101.39 per year
7	MontanaM048731	Northwestern Energy	Power Transmission	Multiple	10/05/2010	\$340.02 per year
8	MontanaM045329	Bonneville Power Administration	Power Transmission	Multiple	06/30/2012	No Rent
9	M012384	Yellowstone Pipeline	Gas Transmission	Multiple	Permanent	\$895.51 per year
10	MontanaM019583	Butte BLM	Road	T6N, R1E S27, 34	Permanent	No Rent
11	MontanaM019582	Butte BLM	Road	Multiple, see figure	Permanent	No Rent
12	MontanaM019585	Butte BLM	Road	T6N, R1E S10	Permanent	No Rent
13	MontanaM019584	Butte BLM	Road	Multiple, see figure	Permanent	No Rent
14	MontanaM071308	Broadwater County	Road	T7N, R1E S25	Permanent	No Rent

Notes:

*Rental is subject to change based on rental regulations for BLM rights-of-way.

¹Map no = Right-of-way shown on Figure 3-3 as the map number in this column.

E – East N = North
T = Township R = Range
S = Section

Source: Kelly Acree (2006)

WASTE CLASSIFICATION

LHTA is classified as a conditionally exempt small quantity generator, however, essentially no hazardous waste is generated at this site. No medical, biohazardous, or radioactive wastes, nor asbestos or lead-based paint are stored on site.

PETROLEUM STORAGE TANKS

The Training Site Division uses one 500-gallon gasoline aboveground storage tank. The fuel is used to run on-site generators. This tank is below the 1,320-gallon regulatory threshold established under oil pollution prevention and response requirements (40 Code of Federal Regulations, Part 112) for preparation of a spill prevention, countermeasure and control plan. This tank has had no known leaks or spills since its installation. No other tanks are present at LHTA.

PESTICIDE USE

No pesticides are stored at LHTA. Information on the weed control program at LHTA is provided in Section 3.1.

INSTALLATION RESTORATION PROGRAM

Other than ordnance and explosives, no hazardous material contamination requires cleanup at LHTA.

3.10.6 ORDNANCE AND EXPLOSIVES ACTIVITIES

The LHTA is the primary live firing range for training MTARNG personnel to meet the requirements of their missions as described in Chapter 1.

As the result of firing live ordnance, ordnance and explosives have contaminated public land at the LHTA. In 1993, the U.S. Army Corps of Engineers conducted a unexploded ordnance hazard survey within the LHTA. Based on the results of this survey, the BLM immediately imposed an emergency closure of approximately 8,000 acres of public land to public access (Figure 1-2). This closure was imposed as a safety measure to protect the public from unexploded ordnance. The actual area believed to contain unexploded ordnance is smaller, but the closure area boundaries have been set to include all vehicle access points to the area.

The Department of Defense (DoD) Standard 6055.9 and DoD Directive 4715.11 provides legal guidance for managing the environmental and safety risks of unexploded ordnance. The Department of Defense Explosives Safety Board provides on-going interpretation, review and recommendations to the Secretary of Defense in the implementation of the standard. The policy articulated by standard 6055 provides for the safety of the public from exposure to contaminated real property under DoD control, prohibits disposal of ammunition and explosives, and requires the decontamination of the property with the most

appropriate technology. This policy requires action by the MTARNG to address past contamination, as well as current operations within the guidelines.

In addition, active ranges must follow environmental and explosives safety management on Department of the Army operational ranges policy which is summarized in a letter from the secretary of Army (MTARNG 2003b). Referenced in this letter is a federal regulation known as the military munitions rule which defines special requirements for the management of waste military munitions (62 FR 6621, February 12, 1997). As a federal regulation, it establishes a minimum standard for the management of waste military munitions in the U.S. and U.S. Trust Territories.

As required by the military munitions rule, the following documentation of range operations is required at the LHTA:

- All military munitions expenditures (types, quantities, locations, and estimated dud rates) used or fired on ranges per DoD 6055.9-Standard
- All mishaps attributed to unexploded ordnance that occurred either on or off the installation per DoD 6055.9-Standard
- Unexploded ordnance clearance operations conducted on ranges
- All areas containing known or suspected unexploded ordnance on range maps or installation master planning maps

The military munitions rule excludes munitions used for their intended purposes from the definition of a solid waste and, therefore, excludes munitions from regulation as a hazardous waste. This exclusion applies to training, research, development, recovery, collection, and on-range destruction of unexploded ordnance. The military munitions rule considers range management to be a necessary part of the safe use of munitions for their intended purpose. The exclusion for range clearance applies to the separation of lead and bullets from soil and the redeposition of soil on the range. If spent lead at a shooting range is abandoned (or is determined to be abandoned), it then becomes solid waste. If solid waste accumulates on the ground surface and, therefore, causes lead leaching, it may be considered a hazardous waste. At that point, the lead contamination could be subject to *Resource, Conservation and Recovery Act* Subtitle C requirements (Interstate Technology and Regulatory Council [ITRC] 2003).



Using the Quad Geophysical Sensor Array to Sweep for UXO



81-mm UXO on the High Explosive Impact Range

LIMESTONE HILLS TRAINING AREA

Range personnel must follow the environmental and explosives safety management on Department of the Army operational ranges policy (Army Regulation 385-63). In summary, when firing high explosive ordnance into the high explosive impact area each round is tracked and recorded as exploded or unexploded by the Officer In Charge. A report entitled "Limestone Hills Multipurpose Training Range Dud Sheet" is generated at the end of the training session which provides type, location, and time an ordnance failed to detonate (unexploded ordnance). If any unexploded ordnance is recorded, an explosive ordnance disposal team is called in and the unexploded ordnance is detonated either at the demolition area or at the impact site if the unexploded ordnance is deemed unsafe to transport.

Ordnance and Explosives Activities – Non-Closure Area - East of Old Woman Grave Road

The LHTA is partitioned into two areas: a closed area west of Old Woman's Grave Road and an open area east of Old Woman's Grave Road (referred to as the "nonclosure area" and shown in Figure 1-2). Currently, high explosive ordnance is not fired into the area east of Old Woman's Grave Road; however, because the LHTA has been used for military training for at least 40 years, an unknown risk of encountering unexploded ordnance east of Old Woman's Grave Road exists.

Ordnance and Explosives Activities – Closure Area - West of Old Woman's Grave Road

Located in the closed area are the high priority unexploded ordnance clearance area within the Graymont mine permit boundary, the high explosive impact area, and a number of range fans (Figure 1-2 and 2-2). The high priority unexploded ordnance clearance area has had documented unexploded ordnance contamination. All high explosive ordnance currently fired into the high explosive impact area is tracked and any unexploded ordnance is located and disposed. A copy of the dud inventory and tracking form is provided in Appendix D. Other range fans shown in Figure 2-2 do not receive high explosive ordnance.

Munitions that produced unexploded ordnance used west of Old Woman's Grave Road include:

- 165-millimeter High Explosive Plastic (HEP) round
- 105-millimeter artillery rounds
- 155-millimeter artillery rounds
- 105-millimeter tank rounds
- 120-millimeter mortar rounds
- 76-millimeter tank rounds
- 90-millimeter tank rounds
- 4.2-inch mortars
- 81-millimeter mortars
- 60-millimeter mortars
- 2.75-inch helicopter launched rockets
- 3.5-inch Bazooka rounds

- M-113 Bradley Fighting vehicle-mounted and ground-mounted tube-launched, optically tracked, wire-guided (TOW), heavy antitank missiles
- DRAGON
- AT-4s
- Hand grenades
- Claymore mines
- MK-19s
- Light anti-tank weapons

Ordnance and Explosives Removal Activities – Graymont Western Mining Permit Area

Past live-fire training by the MTARNG has resulted in ordnance and explosives contamination of public land with mining claims owned by Graymont. Because the Department of Defense Standard 6055.9 prohibits exploration, and drilling and mining on the surface of unexploded ordnance contaminated land, the MTARNG initiated a clearing activity on mining claim land considered to be high priority by Graymont (Figure 1-2). This high priority unexploded ordnance clearance area is within a BLM-instituted closure area, west of Old Woman's Grave Road, and is currently under the safety control of the MTARNG. The purpose of the clearance activity is to remove the ordnance and explosives hazard so as to allow an end use of mining by Graymont. Any end use by Graymont depends upon the successful completion of the clearance as determined by the Department of Defense Explosive Safety Board.

The unexploded ordnance hazard removal project requires the use of project crews working seasonally during late spring, summer, and early fall each year. The crews conduct the following activities: (1) site preparation (such as clearing brush), (2) surface and subsurface unexploded ordnance geophysical surveys, (3) validation of "anomalies" (or possible unexploded ordnance) detected during the geophysical survey, (4) unexploded ordnance removal, and (5) data management and site mapping.

GRAYMONT WESTERN U.S. INC. MINING CLAIMS AND ORDNANCE AND EXPLOSIVES HAZARD

Graymont has a permit to mine limestone and dolomite granted by the Montana Department of Environmental Quality with a provision that the mine cannot proceed past the 2.75-inch rocket safety fan line until the area is cleared of the ordnance and explosives hazard (Figure 1-2). This safety fan line demarcates the boundary between the area north where active mining is currently permitted by the State of Montana and BLM and the area south that is contaminated with unexploded ordnance. Without removal of the ordnance and explosives hazard, Graymont faces premature exhaustion (10 years vs. 30 years) of ore reserves. To mitigate the ordnance and explosives hazard and to avoid the economic impact the closure of the mine would have on the surrounding community, the MTARNG is implementing a multi-year ordnance and explosives clearance of the affected mine claims. A description of the mine's plan of operations is provided in Section 3.3. Information on the amount and type of ordnance and explosives and clearance activities are described below and illustrated in Figure 3-12.



High Explosive Active Impact Area



Typical Warning Sign in Closure Area

AMOUNT AND TYPE OF ORDNANCE AND EXPLOSIVES HISTORY

The MTARNG has overseen the search for unexploded ordnance on the ridge south of the existing Graymont plant. The quarry has been swept for surface unexploded ordnance several times. Surface sweeps/surveys of the area in 1993, 1994, and 1995 by the Corps of Engineers' Mandatory Center of Expertise for Ordnance and Explosive Waste, along with explosive ordnance disposal teams from Fort Lewis, Yakima, and Great Falls, located and disposed of the following types of munitions: 155-millimeter high explosive rounds (13), 155-millimeter illumination rounds (10), 105-millimeter high explosive rounds (11), 105-millimeter illumination rounds (4), 2.75-inch high explosive rocket warheads (11), 4.2-inch high explosive mortars (3), 4.2-inch illumination mortar (1), 76-millimeter high explosive rounds (3), and 90-millimeter high explosive projectiles (2). These sweeps also covered areas outside of the area of concern but these items were located either in the area or close to the area.

Between 1998 and 2001, the MTARNG directed a sampling of the subsurface to estimate ordnance and explosives contamination within Graymont's life of mine permit boundary. Eighty-seven digital geophysical surveys of 100 by 100 feet sample grids were conducted. Grids were established on sites considered representative of varying soil depths, slopes and aspects. The total area encompassed by the grids amounts to a 10 percent subsurface sample of the area proposed for mining.

During the excavation of the anomalies, the MTARNG identified 38 ordnance and explosives items. Two of those items contained explosive or hazardous fillers: one 4.2-inch high explosive mortar and one 105-millimeter, Smoke, Red Phosphorus projectile. A complete list of the types of ordnance and explosives that were found during the validation of all 87 grid includes:

- 4.2-inch high explosive and illumination mortars
- 76-millimeter high explosive, armor piercing rounds
- 90-millimeter high explosive, armor piercing, and white phosphorus rounds
- 2.75-inch rockets, high explosive, white phosphorus
- 105-millimeter high explosive anti-tank (AT), white phosphorus rounds
- 155-millimeter high explosive, white phosphorus, illumination rounds

During surface and subsurface investigations the MTARNG documented evidence that the ridgeline south of the rocket safety fan line had received direct fire from a variety of dud-producing munitions. Fragments that were the result of high explosive detonations have been located throughout the survey area. Evidence of impacts from smoke and white phosphorus ordnance has also been present in the form of large pieces of fragmentation with nomenclature often discernible on larger fragments. Illumination canisters have been found throughout the area. Functioned impact fuzes have been found on the surface and at depths of 0.5 meters over the entire ridge. Blast impact craters have been located within the survey area. The east-facing slope in the survey area is the most heavily impacted area. The MTARNG concluded that the top of the ridgeline and the west-facing slope also received high explosive impacts.

EXPLOSIVES SAFETY SUBMISSION

To address the presence of ordnance and explosives within Graymont's life of mine permit boundary, the MTARNG prepared a conventional explosives safety submission, which describes the proposed ordnance and explosives removal activities at the LHTA (MTARNG 2003a). The acreage covered under this original explosive safety submission was 277 acres. This explosive safety submission was approved by the Department of Defense Explosive Safety Board May 2, 2003 (Department of Defense Explosive Safety Board 2004) and the implementation of the plan began in the spring of 2004.

Amendment I to the explosive safety submission document was submitted for approval on May 13, 2004 (MTARNG 2004c). This amendment increased the clearance area to 454 acres (See Figure 1-2) which accommodates eastward mine expansion, based on revised estimates of ore reserves from Graymont. This amendment to the explosive safety submission was approved and received by the MTARNG on June 18, 2004 (Department of Defense Explosive Safety Board 2004). The implementation of the plan is underway.

As detailed in the explosive safety submission, the ordnance and explosives clearance area has been delineated into five clearance zones (Figure 3-12) to allow a phased clearance by zone (MTARNG 2004c). This phased clearance by zone helps focus on smaller areas of clearance. The MTARNG must submit a zone remediation report upon completion of remediation each zone. Additional information of the clearing of the unexploded ordnance contaminated area is provided in the amended explosive safety submission (MTARNG 2004c).

Explosives Safety Submission Field Activities

The MTARNG has cleared approximately 73 acres of the land immediately south of the Rocket Safety Fan (Figure 3-12) which is classified as zone one of the ordnance and explosives clearance area by the explosive safety submission. Unexploded ordnance validation activities were completed on this acreage and the MTARNG submitted a report to Department of Defense Explosives Safety Board requesting the release of these 73 acres so that this acreage could be mined by Graymont (MTARNG 2005b). Department of Defense Explosives Safety Board approved the request and BLM notified Graymont of the zone one clearance area which resulted in formal approval to proceed with proposed exploration and development activities (BLM 2005). The MTARNG is in the process of clearing zone two. Provided below is a summary of findings in zone one of the ordnance and a description of the explosives clearance area is provided below (MTARNG 2005b).

Zone One

The following is a summary of zone one clearance findings:

- No chemical warfare munitions were found
- The following munitions and explosives of concern by type and number were found in zone one:
 - One 76-millimeter high explosive projectile, M352
 - One 105-millimeter "low order" high explosive projectile
"Low order" is defined as an explosive round detonation that does not reach its full potential, and results in a short explosion with explosive residue remaining in the round, usually in the vicinity of impact
 - One 4.2-inch high explosive mortar, M329 series
- In addition to the munitions and explosives of concern listed above the following inert/expended ordnance by type and number were found:
 - 76-millimeter projectiles: M339 and M340 (63 found)
 - 90-millimeter projectiles: M77/M338 series and M353 (42 found)
 - 105-millimeter Illumination and empty high explosive projectiles: M314 series (7 found)
 - 4.2-inch Illumination mortar, M335 series (5 found)
 - 155-millimeter Illumination projectiles: M485 series (3 found)

ORDNANCE DEMOLITION

A demolition area is designated as the disposal area for all ordnance and explosives items determined acceptable to transport by the explosive ordnance demolition team (Figure 3-12). The demolition area exclusion zone is about 4,000 square feet. Access is under control of range control personnel.

No magazines or ammunition supply points are used for the storage of ordnance and explosives recovered items or demolition explosives. Items discovered within the ordnance and explosives area that are deemed unsafe to move are detonated on site. They are not consolidated in the ordnance and explosives work area but are individually detonated. The MTARNG applies engineering controls to on-site intentional detonations to prevent fragment and blast threats to the ammunition holding area and range tower. An exclusion zone for intentional detonations of 2,600 feet has been established around the entire ordnance and explosives clearance area.

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

Chapter 4 presents the scientific and analytic basis for the comparison of alternatives. Descriptions of direct and indirect effects on all resources are provided in Sections 4.1 through 4.10. Both beneficial and adverse effects are described. Subsection numbers in Chapter 4 correspond to the same ones in Chapter 3 for each resource. Mitigation measures developed to address impacts are summarized in Section 4.11. Cumulative effects of the proposed action and alternatives are described in Section 4.12. Section 4.13 presents a comparison of the environmental consequences of Alternatives 1, 2, 3 and 4. Unavoidable adverse effects are described in Section 4.14. The relationship between short-term uses of the environment and maintenance and enhancement of long-term productivity is described in Section 4.15, and irreversible and irretrievable commitments of resources are presented in Section 4.16.

This EIS also considers 14 items considered by the BLM as "Critical Elements of the Human Environment." There are currently no designated areas of critical environmental concern, Wilderness areas, Wild and Scenic Rivers, Floodplains, or Prime or Unique Farmlands in the proposed withdrawal area and thus these elements are not addressed. The remaining nine critical elements are addressed under pertinent sections of Chapter 4. These include: air quality, cultural resources, environmental justice (addressed under Socioeconomic Resources and Environmental Justice), Native American religious concerns (addressed under Cultural Resources), threatened or endangered species (addressed under Vegetation and Wildlife), hazardous or solid wastes (addressed under Hazardous Materials and Items of Special Concern), water quality, wetlands/riparian zones (addressed under Vegetation), and noxious weeds and non-native invasives (also addressed under Vegetation).

A major adverse impact is one that would affect an activity to the extent that it would not take place or would be altered substantially when compared with existing conditions. A major impact may be an impact to a portion of a population or resource. A significantly adverse impact is one that would reduce the viability or eliminate a resource. Significant adverse impacts affect the general population that rely on that resource and has a greater affect than a major impact. A beneficial impact is one that would enhance the resource or activity when compared with existing conditions. Any impact not stated as "major" or "significant" is minor.

4.1 LAND USE

Use of the LHTA would be affected by the implementation of all alternatives. Under Alternative 1, land use could change from the current condition of multiple-use shared by the MTARNG, the general public and those with BLM-permitted uses to a potentially exclusive use by the MTARNG. This would have a major adverse impact on several nonmilitary uses such as recreation, grazing, and mining, for the duration of the withdrawal. Increased human safety by prohibiting all non-military use on the LHTA would be a beneficial impact. All land uses under Alternatives 2 and 3 would continue to be allowed and managed similarly to existing conditions. Land use impacts for Alternatives 2 and 3 would be both adverse and beneficial and are considered minor. Under the no action alternative, land use during the tenure of the right-of-way grant is expected to be the same as under existing conditions and would have no impact to nonmilitary use of the LHTA. Military use would experience a minor adverse impact during the tenure of the right-of-way due to preparation for right-of-way termination. After the right-of-way is terminated, impacts to land uses in the closure area such as military training, mining, and grazing, would be adverse, long term and major if all land uses were prohibited until after adequate UXO clearance. Impacts to nonmilitary land use in the nonclosure area would likely be minor and beneficial for the long term due to the removal of conflicts with military use. Impacts to military use in the nonclosure area would be major and adverse for the long term. Impacts to individual land uses for each alternative are described in detail in this section.

4.1.1 EFFECTS OF ALTERNATIVE 1

Implementation of Alternative 1 could result in major long-term adverse impacts to nonmilitary use of the LHTA. The proposed LHTA is approximately 71 acres smaller than the existing area (Table 2-1). The dashed black line on the map in Figure 2-1 shows the existing LHTA boundary as it is defined in the right-of-way decision. The proposed withdrawal boundary is shown in Figure 2-1 as an orange line. The proposed boundary excludes small parcels of federal land used primarily for grazing on the east and south sides of the existing LHTA, and all federal land northeast of (and including) Indian Creek Road. The proposed boundary adds a small parcel of federal land in Section 29, Township 6 North, Range 1 East (T6N R1E) that would have otherwise been an isolated parcel of federal land managed by the BLM.

Under this alternative, military land use would remain about the same as current levels. There would be an increase in the size of the area open for public access of roughly 388 acres in the area south of Crow Creek Access Road and west of Old Woman's Grave Road. Also, the MTARNG proposes to enhance demarcation of the boundary between the closure and non-closure areas by erecting signs or fencing adjacent to the Old Woman's Grave Road; it would also have the option to erect a fence around the 1,800-acre high explosive active impact area within the closure area.

Proposed changes in military use of the LHTA would be limited to modifications to modernize ranges and to support training units, including reduced use of tracked vehicles, increased use of lighter vehicles, and changes in the configuration of surface danger zones.

Under this alternative, the U.S. Army Corps of Engineers could reduce or eliminate any civilian use of private property (including livestock grazing and mining) if these uses were determined to conflict with the military mission. In addition, the Army Corps of Engineers would acquire both private- (real property and rights to federal minerals) and state-owned property on behalf of the Army for use by the MTARNG. Under this alternative, the closure area could potentially be expanded to include the entire 21,310 acres within the withdrawn LHTA boundary.

RESOURCE MANAGEMENT

Under Alternative 1, the MTARNG would assume primary responsibility for management of all natural and cultural resources and resource uses (with the exception of minerals) on federal land within the proposed withdrawal area. This would be different from existing conditions where the BLM is the primary responsible agency for management of all resources and resource uses on LHTA federal land. Currently, the MTARNG functions as a right-of-way holder on the LHTA under the authorization of BLM right-of-way grant MTM-59955. This change in resource management responsibilities would directly and indirectly affect management of resources as described below.

- ***Air Resource Management***

Air quality requirements would remain the same for the LHTA under primary management by the MTARNG. All applicable air quality requirements listed in Section 3.2.2 would continue to apply.

- ***Geology and Mineral Use Management***

Under Alternative 1, management of mineral resources, including oil and gas, on public lands within the proposed LHTA withdrawal area would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws. The mine permit conditions for Graymont's existing operations are not anticipated to change as a result of the withdrawal action. However, all mineral rights within the LHTA, including those that fall under Graymont's permitted Plan of Operations and Operating Permit #00105, determined to negatively impact MTARNG training objectives could be acquired by the Army Corps of Engineers on behalf of the Army. Acquisition of mineral rights and mining claims would take the form of purchase, condemnation, donation, or exchange.

In addition to the possibility of acquiring mineral rights as discussed in the paragraph above, no mining activities could take place on the claims currently designated as being in conflict with the MTARNG (94 red claims on figures 2-5a and 2-5b).

No new mine claims, Operating Permits, Expansions, or Amendments to existing Operating Permits for mine expansion would be allowed within the LHTA in areas where mining activities might conflict with the ability of the MTARNG to accomplish its mission.

Any future proposals to the BLM for exploration, extraction, or production of locatable minerals and leasable minerals requiring access and surface disturbances on withdrawn land not in conflict with the MTARNG's mission, would continue to require concurrence by the MTARNG based on access to training ranges and safety issues prior to BLM's approval. This would be on existing claims with valid existing rights.

No changes in management of mineral resources are anticipated under Alternative 1. Impacts from loss of mineable mineral reserves or potential resources due to possible termination of some or all mining activities or acquisition of federal mineral rights are described in Sections 4.3 and 4.9.

- **Water Management**

Under Alternative 1, the withdrawn LHTA boundary would exclude all perennial streams. All applicable water quality requirements under the federal *Clean Water Act* and the *Montana Water Quality Act* would continue to apply to management of other water resources such as springs and intermittent drainages in the LHTA; therefore, no impacts to water management are anticipated. Impacts to water quality from the Alternative 1 are described in Section 4.5.

- **Vegetation (Weed Control & Fire Management)**

Currently, the BLM manages vegetation and weeds under a treatment program (BLM 1991). The program sets priorities for treatment, prevention, approved and rejected herbicides, and selection criteria for treatment methods. This program is currently implemented by the MTARNG. Under Alternative 1, the MTARNG would assume primary responsibility for weed control throughout the LHTA and manage weeds in accordance with the LHTA *Integrated Natural Resource Management Plan*. This plan is written in compliance with The *Federal Insecticide, Fungicide, and Rodenticide Act*, as amended, and the Montana County Noxious Weed Control Law, and sets the following goal: to "control those plant and animal species that affect natural resources management or directly affect the military mission on the LHTA." Because the MTARNG has actively controlled weeds on the LHTA in compliance with the BLM right-of-way grant, and proposes to continue managing weeds in the same manner, no impacts to vegetation management practices are anticipated. Impacts to vegetation (including impacts to vegetation from changes in grazing management) are described in Section 4.6.

Under Alternative 1, primary management responsibility for fire management at the LHTA would shift from the BLM to the MTARNG. Currently, the BLM manages fire fuels and wildfire suppression in accordance with the 2003 BLM Statewide Fire Management Plan and Amendment. Current fire management policy under the BLM is full suppression of wildfires. Currently, the BLM delegates fire suppression activities to the MTARNG for the period of time the MTARNG is present on the LHTA. Fires that occur when the MTARNG is not on the LHTA are the responsibility of the BLM who has an agreement with the Helena National Forest to suppress fires on the LHTA. Under Alternative 1, the MTARNG proposes to enter into a similar agreement with the Helena National Forest for the nonclosure area only, and to

continue the full suppression policy at the LHTA. No adverse impacts to management of wildfires are anticipated on the LHTA under Alternative 1.

- **Wildlife and Wildlife Habitat Management**

Under Alternative 1, the Montana Department of Fish, Wildlife and Parks (FWP) would continue to control game harvest at the LHTA and surrounding property. The closure area would remain closed to hunting, trapping, and public access. As the closure area is cleared of unexploded ordnance, additional land would be reevaluated for possible public hunting access. No military training exercises would be allowed anywhere on the LHTA from December 1 to the second Monday in April without permission from Montana Department of Fish, Wildlife and Parks.

Currently, wildlife habitat is managed by the BLM Butte Field Office by at least one wildlife specialist. Under Alternative 1, the MTARNG Environmental Office would rely on contracted services for wildlife studies and reports and proposes to coordinate with FWP to manage wildlife habitat in a way that meets the needs of the State of Montana and the MTARNG military mission. The MTARNG proposes to amend the *Integrated Natural Resource Management Plan* to require annual planning meetings with FWP resource specialists to further MTARNG understanding of activities that could adversely impact wildlife. Because the MTARNG proposes to remain in compliance with, and coordinate with, FWP regarding wildlife habitat maintenance, no impacts to the management of wildlife habitat are anticipated. Impacts to wildlife from the alternatives are presented in Section 4.7.

- **Cultural Resource Management**

Currently, the BLM manages cultural resources on federal land within the LHTA under the 1984 *Headwaters Resource Management Plan*. Under the proposed action, the MTARNG would use a combination of contracted specialists and in-house environmental specialists to manage cultural resources. Because the MTARNG proposes to continue management of cultural resources in accordance with the *National Historic Preservation Act* and all requirements set forth by the Montana State Historical Preservation Office, no impacts to management of cultural resources are anticipated. Impacts to cultural resources from Alternative 1 are described in Section 4.8.

LAND USE MANAGEMENT

Military Use

Use of the LHTA for military training under Alternative I would remain as described for current conditions in Section 3.I with the following exceptions:

- If all nonmilitary uses of the LHTA were terminated, use of the LHTA unhindered by the potential presence of other users would provide an improved training experience for the MTARNG and reduced risk to public and military user safety.
- Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army. This would have a major beneficial impact to military use.

Public Access

Under Alternative I, the LHTA area could increase land available for public access by approximately 388 acres south of the Crow Creek Access Road (Table 2-I and Figure 2-1). This land would remain in the withdrawal area but be open to public access. This increase of accessible federal land would have a beneficial impact to public access, recreation, and other public users of the LHTA.

Under Alternative I, the Department of the Army could also determine that it is necessary to reduce or eliminate public access to some or all of the withdrawn land. Loss of public access to the LHTA would have a major adverse affect on multiple use of public land.

Grazing

Under Alternative I, management responsibility of grazing use in the LHTA would shift from the BLM to the MTARNG. The MTARNG would acquire portions of the following allotments: Dowdy Ditch, Section 33, and Limestone Hills, and all of the Limestone East allotment in accordance with Title 43, Chapter 8A, Subchapter 315q. Where possible, the MTARNG would coordinate grazing permits with adjacent private operations and current BLM permittees. The MTARNG would allow the current grazing permittees to continue grazing until their individual allotment permits expire (generally 5 to 8 more years). After that time, the MTARNG would either (1) terminate grazing in that allotment, or (2) authorize grazing on a competitive, highest bid basis.

Alternative I would require grazing permittees to attend regularly scheduled unexploded ordnance safety briefings. In addition, a grazing-permittee advisory group would be established to help coordinate allotment season of use and other non-military land uses with planned military activities. If the MTARNG determines it to be important for the safety of livestock and livestock managers, a fence may be constructed around the high-explosive active impact area to restrict livestock entry. The termination of grazing permits in the LHTA would have an adverse minor impact to the availability of grazing land. A change from the existing permit system to competitive bidding for the right to use allotments would be beneficial to the general public by providing all potential users with an equal opportunity to acquire a permit and potentially adverse to the current allotment holder.

Recreation

No developed recreational sites are in place in the LHTA; however, the BLM currently has primary management control over federal land use in the LHTA. In accordance with the Headwaters RMP and the *Elkhorn Mountains Travel Management Plan*, BLM coordinates with local recreationists to establish hiking trails. Under Alternative I, the MTARNG would adopt and implement all policies and restrictions described in the *Headwaters RMP* and *Elkhorn Mountains Travel Management Plan* for federal land in the LHTA and proposes to work with interested citizens to develop hiking trails in the eastern portion of the LHTA. If public access was reduced or eliminated in the LHTA as a result of implementation of Alternative I, a major adverse impact to recreational use is anticipated.

Rights-of-Way and Roads

Under Alternative I, the MTARNG would be responsible for management and permitting all new rights-of-way. Existing rights-of-way in the LHTA would be evaluated at the time of renewal by the Army Corps of Engineers or the MTARNG for impacts on military use of the LHTA. However, valid existing rights with no expiration would remain unchanged unless the holder agreed to changes proposed by the military. Any proposed change would be submitted to BLM for review and permission, and would be subject to approval by the Army. Implementation of Alternative I would adversely impact existing holders of rights-of-way and easements in the LHTA due to an increase in uncertainty about the tenure and conditions for the facilities and utilities shown in Figure 3-3. All existing rights-of-way grants would be renegotiated or terminated between the lessee and the Corps of Engineers and any associated fees would be eliminated or paid to the Corps of Engineers. All new rights-of-way grants and associated fees would be negotiated with and paid to the Corps of Engineers.

Under Alternative I, access via county roads would be unchanged and the existing road status as described in the Elkhorns management plan would be adopted by the MTARNG.

Property Ownership

Under Alternative I, the Army would have the authority to reduce or eliminate civilian use of private property within the LHTA. If needed, the Army Corps of Engineers would acquire any nonfederal land located within the withdrawal area that could impact the military mission. Acquisition would take the form of purchase, condemnation, donation, or exchange. This action would adversely impact the private land owners in the LHTA by potentially requiring land owners to sell their land (including patented mining claims), possibly under protest, to the Army. In addition, rights to the mineral estate claimed through the location of mining claims could be acquired by the Army under protest by the claimants. This includes mining claims within the current mine permit boundary area where Graymont has demonstrated the presence of a discovery of limestone resources, which it has developed into a mineable reserve that it has been mining since 1981. Private land owners are identified in Figure 3-3.

Boundary Identification

Alternative I includes improved boundary identification between the closure/non-closure area to reduce the potential for unsafe access to unexploded ordnance-contaminated areas of the LHTA. Warning signs are proposed for every 300 feet throughout the entire closure/non-closure boundary. Where

allowable by federal law governing unexploded ordnance hazard safety, warning signs would be used instead of fencing to avoid adverse impacts to wildlife and livestock by fences. Signs would be spaced at distances that allow visibility from sign to sign throughout the length of the closure/nonclosure boundary. The MTARNG could fence the high explosive active impact area located within the closure area to deter human access. The high explosive active impact area is about 525 acres in size located within the closure area (Figure 2-2). The action of installing improved boundary identification would have a beneficial impact on safety to human health in the LHTA.

4.1.2 EFFECTS OF ALTERNATIVE 2

Under Alternative 2, the location, size, configuration, and boundary of the LHTA area would be the same as under Alternative 1 (Table 2-1).

RESOURCE MANAGEMENT

Under Alternative 2, the MTARNG and BLM would share resource management responsibilities so that most resources in the closure area would be managed by the MTARNG, and most resources in the nonclosure area be managed by the BLM. The following exceptions would be managed by one agency throughout the LHTA: mining activities (BLM), grazing (BLM), public and agency access (MTARNG), military facilities and exercises (MTARNG), and unexploded ordnance cleanup activities (MTARNG). Alternative 2 management responsibilities are summarized in Table 2-5. This would be different from existing conditions where the BLM is the primary responsible agency for management of all resources and resource uses on LHTA federal land. Currently, the MTARNG functions as a right-of-way holder on the LHTA under the authorization of BLM right-of-way grant MTM-59955. This change in resource management responsibilities would directly and indirectly affect management of resources as described below.

- ***Air Resource Management***

Air quality requirements would remain the same for the LHTA under management by both the MTARNG in the closed area and the BLM in the nonclosure area. All applicable air quality requirements listed in Section 3.2.2 would continue to apply.

- ***Geology and Mineral Use Management***

Under Alternative 2, management of mineral resources, including oil and gas, on public lands within the proposed LHTA withdrawal area would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws.

Ninety-four (94) claims are currently identified as being in conflict with the military mission (red colored claims on Figures 2-5a and b). No mining activity would be permitted on these claims while the withdrawal was in effect. Only patented mining claims and mineral rights associated with unpatented mining claims that are currently identified by the MTARNG as being in conflict

with the military mission could be acquired by the Army through the Army Corp of Engineers under protest of the owner or claimant. Unpatented mining claims would need to be validated by the BLM prior to acquisition.

The mine Operating Permit conditions for Graymont's existing operations are not envisioned to change as a result of the withdrawal action. However, some of the red colored claims along the southeast margin of the current mine permit boundary (Figures 2-5a and b, claims SWP 83, 84, 85, and 86; and claims SW 112, 113, 120, 121, and 130) have been designated as being currently in conflict with the MTARNG mission and could not be mined. These claims could be acquired by the Army through the Army Corps of Engineers under protest of the claimant. These claims may contain small amounts of mineable limestone reserves and/or may be needed for surface access to mine identified reserves.

In addition, some of the claims designated as being in conflict with the military mission that lay to the east of the northern end of the current mine permit boundary area (red colored claims on Figures 2-5a and b) are staked on potential dolomite resources identified by Graymont as part of their recently submitted Operating and Reclamation Plan (Resource Management Associates 2006) to the DEQ. These claims could not be mined under Alternative 2 because use of them could restrict MTARNG access to their training ranges. In addition, rights to the mineral estate claimed through the location of mining claims could be acquired by the Army under protest by the claimants. Alternatively, if a suitable, mutually acceptable plan were to be put forward by Graymont it may be possible that some of these claims could be mined. Consideration of this possibility would require more specific details than are currently available.

Under Alternative 2, any future proposals to the BLM for exploration, extraction, or production of locatable minerals and leasable minerals requiring access and surface disturbances on withdrawn land would continue to require concurrence by the MTARNG based on access to training ranges and on safety issues prior to BLM's approval.

No changes in the current management of mineral resources are anticipated under Alternative 2. In addition, under Alternative 2, the MTARNG would continue to share use of the LHITA with Graymont's Indian Creek mine under the current Operating Permit conditions as described in Section 2.2.3. Impacts to mining activities and economic impacts from implementation of Alternative 2 are described in Sections 4.3 and 4.9.

- **Water Management**

Under all action alternatives, the LHITA withdrawal boundary excludes all perennial streams. Indian Creek would no longer be in the LHITA and sections that flow through federal land in the existing LHITA would continue to be managed by the BLM. All applicable water quality requirements under the federal *Clean Water Act* and the *Montana Water Quality Act* would continue to apply to management of water resources in the LHITA for both the closure and

nonclosure areas; therefore, no impacts to water management are anticipated under Alternative 2. Impacts to water quality from Alternative 2 are described in Section 4.5.

- **Vegetation (Weed Control & Fire Management)**

Under Alternative 2, the MTARNG would assume primary responsibility for weed control in the closure area and manage weeds in accordance with the LHTA *Integrated Natural Resource Management Plan*. The BLM would continue to manage weed control in the non-closure area under a treatment program (BLM 1991). The program sets priorities for treatment, prevention, approved and rejected herbicides, and selection criteria for treatment methods. Both the BLM and the MTARNG would manage weed control in compliance with The *Federal Insecticide, Fungicide, and Rodenticide Act*, as amended and the Montana County Noxious Weed Control Law. The BLM is likely to continue to delegate weed control efforts on LHTA federal land to the MTARNG.

Because the MTARNG currently controls weeds throughout the LHTA in compliance with the BLM right-of-way decision document, and would continue managing weeds in the same manner under Alternative 2, no impacts to management practices are anticipated. Under Alternative 2, the cost of managing weeds in the nonclosure area would shift from the MTARNG to the BLM. This shift could adversely impact the BLM Butte Field Office. Impacts to vegetation (including impacts to vegetation from changes in grazing management) are described in Section 4.6.

Under Alternative 2, the MTARNG would assume primary management responsibility for fire management in the closure area of the LHTA while the BLM would continue to be responsible for fire management in the nonclosure area. The BLM would continue to delegate fire suppression activities to the MTARNG for the period of time the MTARNG is present in the nonclosure area of the LHTA. Fires that occur when the MTARNG is not in the nonclosure area would continue to be the responsibility of the BLM who has an agreement with the Helena National Forest to suppress fires on the LHTA. Under Alternative 2, the MTARNG would not enter into a similar agreement with the Helena National Forest for assistance with fire suppression in the closure area because of unexploded ordnance hazard. No impacts to management of wildfires is anticipated under Alternative 2.

- **Wildlife and Wildlife Habitat Management**

Impacts to wildlife management practices would be the same under Alternative 2 as under Alternative 1 with the exception that 388 acres of land south of the Crow Creek Access Road would be opened for public use, including hunting.

Under Alternative 2, the MTARNG Environmental Office would rely on contracted services for wildlife studies and reports for the closure area, and MTARNG would continue to coordinate with the Department of Fish, Wildlife and Parks to manage wildlife habitat in a way that meets the needs of the State of Montana and the MTARNG military mission. The MTARNG would also amend the *Integrated Natural Resource Management Plan* to require annual planning meetings

with the Fish Wildlife and Parks resource specialists to further MTARNG understanding of activities that could adversely impact wildlife. The nonclosure area wildlife habitat would be managed as it is currently by the BLM. Because the MTARNG would be required to remain in compliance with, and coordinate with, Montana Fish, Wildlife and Parks in the closure area and BLM in the non-closure area regarding wildlife habitat maintenance, no impacts to the management of wildlife habitat are anticipated. Impacts to wildlife from the alternatives are presented in Section 4.7.

- **Cultural Resource Management**

Under Alternative 2, the MTARNG would become the primary responsible agency for management of cultural resources in the closure area using a combination of contracted specialists and in-house environmental specialists. Cultural resources on federal land within the nonclosure area of the LHTA would continue to be managed by the BLM Butte Field Office cultural resource specialist in accordance with the 1984 *Headwaters Resource Management Plan* and any revisions or replacements of the plan. It is likely that, as in the past, active management (such as surveys, reporting, and protection precautions) would be conducted by MTARNG. However BLM would retain consultation authority with the SHPO for resources in the non-closure area.

The MTARNG and the BLM would both continue management of cultural resources in accordance with the *National Historic Preservation Act* and all requirements set forth by the Montana State Historical Preservation Office. However, the division of responsibilities regarding historical properties that straddle the closure/nonclosure area boundary is likely to result in duplicating effort whenever overlapping responsibilities exist. This would be a small adverse impact to management of cultural resources. Impacts to cultural resources from the proposed action and alternatives are described in Section 4.8.

LAND USE MANAGEMENT

Military Use

Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army. This would have a major beneficial impact to military use.

Public Access

Under Alternative 2, the LHTA area would increase public access to additional 388 acres of public land south of the Crow Creek Access Road in the southern part of the LHTA (Table 2-1 and Figure 2-1). This increase of accessible federal land would have a beneficial impact to public access, recreation, and other public users of the LHTA.

Grazing

Under Alternative 2, grazing in all LHTA allotments would continue to be managed by the BLM under the *Federal Land Policy and Management Act* and in accordance with regulations governing grazing management (43CFR4100) and the *Butte Field Office Resource Management Plan*. Grazing allotments located partially or wholly within the proposed withdrawal area are the Dowdy Ditch, Section 33, Limestone Hills, and Limestone East Allotments. Existing grazing allotment permit conditions would remain in place with the exception of changes required by the BLM in response to range assessment findings.

Because grazing would continue to be managed by the BLM, unexploded ordnance safety briefings would be provided to the grazing permittees only if requested, and no grazing-permittee advisory group would be established. The fence around the high-explosive active impact area would not be constructed. The continuation of the existing management practices for grazing permits would have no effect on grazing management.

Recreation

The increase of 388 acres of accessible public land currently closed to the public would have a beneficial impact to recreational users. Future status of most of the closure area for recreational use would change from temporarily closed to permanently closed. This would result in a minor adverse impact to future recreational use of the LHTA.

Rights-of-Way and Roads

Under Alternative 2, the BLM would continue to be responsible for management and permitting of all new rights-of-way in the non-closure area. However, any proposed change or addition to a valid existing right-of-way (not reserved) would be submitted to the MTARNG for review and permission, and would be subject to approval by the Army. In the closure area, all new rights-of-way grants, renewals, and associated fees would be negotiated with and paid to the Corps of Engineers. In the nonclosure area, all new rights-of-way grants would be negotiated with and fees paid to the BLM. All existing grants payments would be paid to the BLM. Implementation of Alternative 2 could adversely impact those who request a new right-of-way or easement in the LHTA if requests are denied due to the withdrawal.

Under Alternative 2, access by way of county roads would be unchanged and the existing road status as described in the Elkhorns management plan would remain the same with the exception of the road to Crow Creek located in the southwest portion of the LHTA. Under Alternative 2, the area south of, and including, the Crow Creek Access Road would be open for use in the same manner at all federal land in the LHTA east of Old Woman's Grave Road. This change in management would allow use of a road segment currently closed year-around to the public resulting in a beneficial impact to road access.

Property Ownership

Under Alternative 2, if the Department of the Army determined that property acquisition was necessary, private and state land owners would have the options of selling their land, selling an easement to the Army, or participating in a land exchange.

Boundary Identification

Alternative 2 would have the same impact to boundary identification as Alternative 1.

4.1.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Implementation of the preferred alternative would result in both beneficial and minor adverse impacts to recreation. Other land uses would be affected. The location, size, configuration, and boundary of the LHTA area would be the same as under Alternatives 1 and 2 (Table 2-1, Figure 2-1).

RESOURCE MANAGEMENT

Under the preferred alternative, the MTARNG would assume primary responsibility for management of all natural and cultural resources and resource uses (with the exception of mineral resources) on federal land within the proposed withdrawal area. This would be different from existing conditions where the BLM is the primary responsible agency for management of all resources and resource uses on federal land. Resource management priorities and practices would be based on the LHTA integrated natural resource and cultural resource management plans rather than the BLM Butte Field Office *Resource Management Plan*. Impacts to management policies and responsibilities for air resources, geologic resources, water, weed control, fire management, wildlife, wildlife habitat, and cultural resources would be the same as those described for Alternative 1 and would not result in an appreciable change in management practices.

GEOLOGY AND MINERAL USE MANAGEMENT

As with Alternative 1, only 94 claims are currently identified as being in conflict with the military mission (red colored claims on Figures 2-5a and b). No mining activity would be permitted on these claims while the withdrawal was in effect. Only patented mining claims and mineral rights associated with unpatented mining claims that are currently identified by the MTARNG as being in conflict with the military mission could be acquired by the Army through the Army Corp of Engineers under protest of the owner or claimant. Unpatented mining claims would need to be validated by the BLM prior to acquisition.

The mine Operating Permit conditions for Graymont's existing operations are not envisioned to change as a result of the withdrawal action. However, some of the red colored claims along the southeast margin of the current mine permit boundary (Figures 2-5a and b, claims SWP 83, 84, 85, and 86; and claims SW 112, 113, 120, 121, and 130) have been designated as being currently in conflict with the MTARNG mission and could not be mined. In addition, rights to the mineral estate claimed through the location of mining claims could be acquired by the Army under protest by the claimants. These claims

may contain small amounts of mineable limestone reserves and/or may be needed for surface access to mine identified reserves.

In addition, some of claims designated as being in conflict with the military mission that lay to the east of the northern end of the current mine permit boundary area (red colored claims on Figures 2-5a and b) are staked on potential dolomite resources identified by Graymont as part of their recently submitted Operating and Reclamation Plan (Resource Management Associates, 2006) to the DEQ. These claims are in conflict with the current MTARNG mission because use of them could restrict MTARNG access to their training ranges, and therefore, they could not be mined under this alternative. In addition, rights to the mineral estate claimed through the location of mining claims could be acquired by the Army under protest by the claimants. Alternatively, if a suitable, mutually acceptable plan were to be put forward by Graymont it may be possible that some of these claims could be mined. Consideration of this possibility would require more specific details than are currently available.

LAND USE MANAGEMENT

Military Use

Use of the LHTA for military training under the preferred alternative would remain the same as described under current conditions in Section 3.I with the following exceptions:

- Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other division of the Department of the Army. This would be a beneficial impact to military use.
- Transferring primary responsibility for most land use and resource management on federal land in the LHTA would improve coordination between military training personnel and land users. This would have a beneficial impact on military use.

Public Access

Impacts to public access under Alternative 3 would be the same as those described under Alternative 2.

Grazing

Under Alternative 3, grazing management responsibilities would shift from the BLM to the MTARNG. Existing permit holders would continue grazing under their current leases and have the option to renew their permits for a 20-year period, longer than is currently allowed. Permit conditions and range maintenance requirements would be the same as those established by the BLM under the *Federal Land Policy and Management Act*. Title 43, Chapter 8A, Subchapter 1 Section 315q "withdrawal of lands for war or national defense purposes; payment for cancellation of permits or licenses" would not apply to the LHTA withdrawal area.

Other aspects of Alternative 3 applicable to grazing permittees would be the required attendance at regularly scheduled unexploded ordnance safety briefings and the establishment of a grazing-permittee

advisory group to coordinate allotment season of use and non-military land uses with planned military activities. The high-explosive active impact area would be fenced only if requested by the permittees.

The continuation of existing grazing permits would result in no change to the availability of grazing land or to the size of the herds of the current permittees. Extension of the permit period upon renewal would have a beneficial impact for grazers by allowing permittees to plan for longer periods.

Recreation

No developed recreational sites are in place in the LHTA; however, the BLM currently has primary management control over federal land use in the LHTA in accordance with the *Elkhorn Mountains Travel Management Plan* and coordinates with local recreationists to establish hiking trails. Under Alternative 3, the MTARNG would adopt and implement all policies and restrictions described in the *Elkhorn Mountains Travel Management Plan* for federal land in the LHTA and proposes to work with interested citizens to develop hiking trails in the eastern portion of the LHTA. No impacts to management of recreation or to recreation opportunities are anticipated as the result of implementation of the preferred alternative. An increase in 388 acres of accessible public land currently closed to the public would have a beneficial impact to recreational users. Future status of most of the closure area for recreational use would change from temporarily closed to permanently closed. This would result in an adverse impact to recreational use of the LHTA.

Rights-of-Way and Roads

Most impacts to access and rights-of-ways would be the same as those described under Alternative 2. At the time of renewal all existing rights-of-way grants (not reserved) would be renegotiated between the lessee and the Corps of Engineers and associated fees would be eliminated or paid to the Corps of Engineers. All new rights-of-way grants and associated fees would be negotiated with and paid to the Corps of Engineers. No impacts to rights-of-way holders are anticipated. Crow Creek Access Road would become open for public use which would have a beneficial affect on road use availability.

Property Ownership

Impacts to property ownership would be the same as those described under Alternative 2.

Boundary Identification

The preferred alternative would have the same impact to boundary identification as Alternatives 1 and 2.

4.1.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Under the no action alternative, the location, size, configuration, and boundary of the LHTA would remain the same as described under existing conditions in Section 3.1 until termination of the MTARNG right-of-way. Resource management responsibilities for the MTARNG and military use of the LHTA would continue to be guided by the right-of-way grant until termination.

The Department of Defense supports UXO cleanup activities at the LHTA by funding the MTARNG on an annual basis. The cleanup budget is based on recommendations made by the National Guard Bureau Program Budget and Advisory Council. This means that the certainty and amount of funding for UXO surveys, ground clearance, surface sweeps, and removal, while expected, is not guaranteed from year to year. In addition, because these funds are drawn from the National Guard Range and Training Land Program, they are restricted for use in support of operational ranges (not closed ranges). Because the current funding source for the MTARNG UXO cleanup budget would cease if the LHTA were no longer an operational range, and funding is currently issued on an annual basis, it is likely that funding for the MTARNG to find and clean up UXO at the LHTA would cease immediately once the LHTA was no longer used for military training. Under the no action alternative, funding for, and implementation of UXO cleanup at the LHTA would likely be the responsibility of one of the following three programs:

- Department of Defense Army Corps of Engineers under the Defense Environmental Restoration Program (for facilities supporting federal troop training)
- State of Montana Department of Environmental Quality under the Comprehensive Environmental Cleanup and Responsibility Act (under State of Montana authority)
- U.S. Environmental Protection Agency under the Comprehensive Environmental Response, Compensation and Liability Act (under BLM authority)

UXO cleanup rate and cleanup location priorities under other than the MTARNG programs would likely differ from existing conditions. Currently, land immediately south of the operating mine is the MTARNG's highest cleanup priority. A post-military use risk assessment is likely to reassess cleanup priorities. It is also anticipated that the UXO cleanup rate would decrease or temporarily stop due to the startup time typically required for major restoration projects by these agencies.

Impacts to land available for mining under the no action alternative are beneficial and adverse, depending on location and time frame. A change in cleanup priorities and/or a reduction in UXO cleanup rate could have an adverse impact on the availability of land for mineral development south of the existing mine. Termination of military use of the LHTA would increase the availability of nonhazardous land that currently conflicts with the military mission. Over the long-term, available land for safe mineral development would likely be reduced resulting in an adverse impact to mining under the no action alternative.

Impacts to other non-military land uses are less predictable and dependent on cleanup priorities and cleanup rate by the responsible agency. Depending on results of hazard risk assessments, use of the closure area to graze livestock may be terminated or access to previously closed areas for hunting and other recreational activities may increase. Because it is anticipated that cleanup rates would likely slow under the no action alternative, future access to the closure area would be adversely affected.

Impacts to military use would be significant, adverse and long term under the no action alternative. In order to meet the requirement to train on combat-critical tasks to a standard that produces a combat-

ready unit, the military units based out of Fort Harrison would have to train outside of Montana (Swanson 2006). Most of the 18 primary military units using the LHTA (Table 3-3), would have to train out of state under the no action alternative. Although the right-of-way grant would end in 2014, military training and use would end prior to that year to allow for removing existing infrastructure, reclaiming the disturbed areas, and fencing the UXO-contaminated areas.

RESOURCE MANAGEMENT

Under the no action alternative, the BLM would continue to manage LHTA resources on federal land as the primary responsible agency. No change in resource management responsibilities is anticipated under Alternative 4.

LAND USE MANAGEMENT

Military Use

Use of the LHTA for military training under the no action alternative would remain the same as described in Section 3.1 under existing conditions except that after termination of the right-of-way, the LHTA would no longer be used for military training. Although the grant would end on or before March 26, 2014, military training and use would end prior to that year.

Impacts to military use from the no action alternative would be significant and adverse.

Public Access

Under the no action alternative, public access would remain as it is described in Section 3.1. No change in public access is likely to occur after the MTARNG discontinues use of the LHTA until unexploded ordnance hazards are removed. Under the no action alternative, it is likely that the rate of unexploded ordnance clearance would slow, resulting in a longer period of time to remove unexploded ordnance to a risk level acceptable for surface use. This would have a minor adverse impact to public land use.

Grazing

Under Alternative 4, grazing on federal land throughout the entire LHTA would continue to be managed by the BLM under the *Federal Land Policy and Management Act* and in accordance with regulations governing grazing management (43CFR4100) and the *Butte Field Office Resource Management Plan*. While the MTARNG right-of-way was in place, grazing would be permitted throughout the LHTA on existing allotments in accordance with Title 43, Chapter 8A, Subchapter 315q.

Unexploded ordnance safety briefings would be provided to the grazing permittees, if requested, but would not be required. No grazing-permittee advisory group would be established and a fence would not be constructed around the high-explosive active impact area. After termination of the right-of-way, the responsibility for UXO at the LHTA would transfer from the MTARNG to the Department of Army, which may not allow grazing activities to take place in a UXO hazard area.

Continuation of existing grazing permits would result in no change to grazing management. If grazing were no longer allowed, the prohibition of grazing in UXO hazard areas would have an adverse impact to the grazing permittees by eliminating their ability to graze livestock on these pastures which may cause them to sell or downsize their herds.

Recreation

Recreational use of the LHTA would continue to be managed by the BLM as described in Section 3.2. After termination of the MTARNG right-of-way, UXO clearance could slow, or clearance area priorities could shift to support recreational activities depending on the agency responsible for UXO hazard reduction. If the length of time for clearance of the closure area increased, it would result in an adverse impact to recreation. If priorities shifted to clearance of potential recreational areas, recreational use of the LHTA would benefit.

Rights-of-Way and Roads

Under the no action alternative, the BLM would continue to be responsible for management and permitting other rights-of-way on the LHTA. After termination of the MTARNG right-of-way, proposed changes or additions to other rights-of-way would not be submitted to the MTARNG for review and permission, or be subject to approval by the Army. Road access under the no action alternative would be the same as under existing conditions as long as the LHTA were used for military training. After the LHTA is no longer used for military training, roads would be open continuously, and drivers would not be stopped for safety concerns. Access to the Crow Creek Access Road would continue to be closed while the Dept. of Army cleared the area for UXO, and until BLM determined it safe for public use. Implementation of the no action alternative would likely beneficially impact road use and public access after termination of the right-of-way grant. Existing rights-of-way grants in the nonclosure area would not be changed beyond the existing contract terms. All grant fees would continue to be paid to the BLM.

Property Ownership

Under the no action alternative, the Army would not acquire any land in the LHTA. Private and state land owners would not be offered the option of selling land or an easement to the Army. This is the same as current conditions and would have no impact on property ownership.

LHTA Boundary

While the MTARNG right-of-way remained in place, LHTA boundaries would remain as described in Section 3.1 and Figure 3-3. After termination of the right-of-way, the LHTA would no longer exist as a training area. Boundaries would be determined by UXO hazard risk levels and would demark areas open or closed to public access. This is not expected to change from current conditions and results in no impact to boundary demarcation.

4.2 AIR QUALITY AND NOISE

Air quality is considered by the BLM as a Critical Element of the Human Environment. Major impacts to air quality resources would result if federal or state air quality standards were exceeded during project operation. Federal air quality standards are represented by the National Ambient Air Quality Standards and the Montana Ambient Air Quality Standards. Potential emissions associated with continued operation of the LHTA are not expected to contribute to an exceedance of the National Ambient Air Quality Standards or Montana Ambient Air Quality Standards, to affect nearby residents and employees, or to contribute significantly to increased regional haze.

Noise was primarily evaluated using the information presented in the LHTA *Installation Environmental Noise Management Plan* (USACHPPM 2003). The Army noise zones I, II, and III, as well the land use planning zone and zone of influence buffer zones described in Section 3.2, were used to evaluate the LHTA noise levels. As presented in Section 3.2, the Army developed noise contours for the LHTA small arms noise and large caliber weapons and explosive noise.

The three action alternatives would have no effect on air quality, including ambient noise levels, when compared with existing conditions. The no action alternative would likely result in a long term minor beneficial effect on ambient noise levels due to the cessation of weapons firing, and minor short term beneficial effect on air quality through the reduction of particulate matter after the right-of-way grant was terminated. Impacts to air quality and noise levels for each alternative are described in detail in this section.

4.2.1 EFFECTS OF ALL ACTION ALTERNATIVES (ALTERNATIVE 1, 2, AND 3)

The military use of the LHTA associated with Alternatives 1, 2, and 3 would be similar with respect to impacts to air and noise. Training activities are currently occurring at the LHTA, and no unit changes are anticipated. The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area. The future noise environment would remain constant at the approximately 55 single-family residences located within the zone of influence and for wildlife species that live or forage in the area. The noise levels associated with all action alternatives would also be similar, and existing noise levels described in Section 3.2 are expected to continue regardless of which alternative is selected.

4.2.1.1 Effects to Air Quality

The proposed land withdrawal would not produce new transportation-related emissions. The primary source of emissions in the LHTA is from motor vehicles. Vehicular travel in the LHTA would not increase as a result of the proposed land exchange. For the proposed land withdrawal, the estimated emissions associated with operation of the LHTA, including emissions from recreational vehicle travel to and from the LHTA, are predicted to be similar to or less than current emissions at the LHTA. It is

possible the mobile source air toxics associated with operation of the LHTA would be lower in the future because regulations have been established to reduce vehicular emissions. The many vehicle and fuel changes in the last 25 years have greatly reduced air toxics emissions from highway vehicles. Newer vehicles are capable of emitting 90 percent less air toxics on a per-mile basis than the uncontrolled models of 1970; new trucks and buses are designed to emit less than half the air toxics of their 1970 counterparts. Overall air toxics emissions from the LHTA would decrease as older vehicles leave the fleet and as new regulatory programs take effect. An anticipated increase use of lighter vehicles would further reduce emissions (EPA 1994).

4.2.1.2 Effects from Noise

MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Dominant noise sources include weapons and explosives used at LHTA creating impulsive noise, including detonations at impact points, ordnance firing points, and the small arms ranges. In most instances, the noise produced by the LHTA operations is sporadic, and localized to specific training areas located west of Old Women's Grave Road.

In general, individual gun shots from small arms associated with LHTA training activities may be audible up to 2 miles from the training areas depending on the location of the receptor relative to the sources, the background noise level at the receptor location, and atmospheric conditions. The average noise levels associated with small arms fire during a typical 24-hour period is predicted to be approximately equal to the estimated existing A-weighted ambient noise levels (ADNL 30-42 dBA) at up to approximately 2 miles beyond the ADNL 60 dBA noise contour developed by the Army (Figure 3-3) (USACHPPM 2003). An estimated ADNL 40 dBA contour, representing the ambient noise levels, would primarily be located within the LHTA boundaries, but would extend beyond the LHTA boundary by approximately 1 mile to the northeast along River Road and 1 mile to the west.

When audible, individual gun shots from large caliber weapons and individual explosions will appear to be an instantaneous low-frequency boom. Noise from individual gunshots or detonations could be audible at many locations within a radius of several miles or more from the LHTA depending on the location of the receptor relative to the blasting location and the background noise levels at the receptor location. The average noise levels associated with large caliber weapons fire and explosives during a typical 24-hour period is predicted to be equal to the estimated C-weighted ambient noise levels (CDNL 53-56 dBC) at up to approximately 0.2 miles beyond the CDNL 57 dBC noise contour developed by the Army (Figure 3-4) (USACHPPM 2003). An estimated CDNL 55 dBC contour, representing the ambient noise levels, would primarily be located within the LHTA boundaries, but would extend beyond the LHTA boundary by up to approximately 0.75 miles to the west and 0.5 miles to the southwest.

POTENTIAL NOISE EFFECTS

Noise-induced hearing loss is the primary effect of exposure to excessive noise. The Army Safety Program complies with standards issued by the Occupational Safety and Health Administration (OSHA) and the U.S. Environmental Protection Agency (EPA), and is designed to provide a safe environment for MTARNG personnel and civilians who live in the 1-mile zone of influence (USACHPPM 2003).

The primary human effect due to noise is annoyance. The degree of annoyance due to a noise is subjective and can vary dramatically from person to person based on the type and level of the noise, and other non-acoustic factors, such as prior exposure to similar noises, the age and health of a listener, and attitude toward the noise source. Other effects on humans may include speech interference, stress reactions, sleep interference, lower morale, efficiency reduction, and fatigue (Harris 1998).

Numerous studies have been conducted documenting the effects of noise on wildlife. Wildlife response to noise is a function of many other variables besides noise, including the characteristics of the noise and its duration, life history characteristics of the species, habitat type, season and current activity of the animal, sex, age, previous noise exposure, and other physical stressors such as drought. General wildlife responses to human-made noise are attraction, tolerance and aversion, which are summarized in the following list (Collaboration in Science and Technology, Inc. [CST] 1996, EPA 1971, Bowles 1995).

- The sight and actions of noise sources (for example, humans yelling) can cause greater impact than the noise itself.
- Birds can detect low-frequency man-made noise transmitted through the ground before it arrives in the air (for example, subsurface detonations).
- Most animals habituate to sounds (for example, truck noise) disassociated with other threatening stimuli (for example, gunshots).
- Animals (for example, ungulates) that habituate to traffic noise are vulnerable to oncoming vehicles.
- Steady sounds are less prone to startle animals than sudden onset noise.
- Human-made noise can mask meaningful noise (for example, mating and other communication). Animals can compensate for noise masking through avoiding the area, waiting until the noise stops, or shifting the level or frequency of their signals.
- Herding or flocking animals are often as sensitive as the most sensitive individual in the group. However, animals rarely respond with uncontrolled panic.
- Motivation to find food make can make animals tolerant of noise.
- Most effects of noisy disturbances are mild enough that they may never be detectable as changes in population size or population growth.
- Animal aversion is measured in avoidance responses and can be lessened if animals can control or predict exposures (for example, a warning signal before gunshots or detonations).
- Large mammals may alter their movements for up to two days after intense noise exposure, but if exposed repeatedly to the same noise stimulus without harassment, responses decline rapidly.

4.2.2 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Under the no action alternative, the LHTA would continue to be used as it is currently until the right-of-way grant is terminated. The primary source of noise and particulate matter in the air would continue to be the MTARNG as it uses the LHTA for training exercises and the Graymont mine. Impacts described for the action alternatives would be the same as those for the no action alternative until the MTARNG ceased use of the LHTA on or before March 26, 2014. After that time, dust raised by military vehicles and noise from training activities would no longer affect the environment resulting in a beneficial impact to air quality and noise.

Alternative 4 would likely have a long-term minor beneficial effect on ambient noise levels, and a minor short-term effect on air quality.

4.3 GEOLOGY, MINERALS, AND PALEONTOLOGY

Mineral extraction-related activities would be affected by the implementation of all alternatives. Alternative 1 would likely have a long term major adverse impact to mineral resources. Mineral resources under Alternatives 2 and 3 would be managed similarly to existing conditions and would have minor impacts, in areas of proposed limestone mining. However, the areas proposed for dolomite mining by Graymont (discussed below) are currently designated as being in conflict with the MTARNG's ability to carry out its mission as use of them could restrict MTARNG access to their training ranges. Because dolomite resources have not been upgraded to a mineable reserve at this point in time and have not been permitted for mining by the DEQ and BLM, Alternative 2 and 3 could have a long-term minor adverse impact on Graymont's ability to mine dolomite mineral resources in this area. With the submission of a mine plan with more specific details by Graymont that provided the MTARNG with access to its training ranges in this area, it is possible that some of the dolomite claims could be mined. However, there is insufficient detail at present to evaluate this possibility. Under the no action alternative, mining activities during the tenure of the right-of-way grant would be the same as under existing conditions resulting in no impact on mineral extraction when compared with existing conditions. After the right-of-way is terminated, impacts to mineral resources in the closure area could be adverse, long term and major if mining activities are prohibited until after adequate UXO clearance. With the exception of mineral extraction activities, geology and paleontology would be unaffected by the implementation of all alternatives. Impacts to geological resources for each alternative are described in detail in this section.

4.3.1 EFFECTS OF ALTERNATIVE 1

Mineral resources on public land within the proposed LHTA withdrawal area would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws. On a local level, mineral resources would continue to be managed by the BLM Butte Field Office in accordance with the most current Butte Field Office *Resource Management Plan* (BLM 1984b) and the *General Mining Law*. In addition, concurrence by the Army is required based on access to training ranges and safety issues, and compatibility with the MTARNG's ability to carry out its training mission. However, all mineral rights, including those that fall under Graymont's permitted Plan of Operations and Operating Permit #00105, determined to negatively impact Army training objectives could be acquired by the Army Corps of Engineers on behalf of the Army. In addition, rights to the mineral estate claimed through the location of mining claims could be acquired by the Army under protest by the claimants. Acquisition of mineral rights and mining claims would take the form of purchase, condemnation, donation, or exchange.

If mining activities were determined to impact the MTARNG mission, patented and unpatented mining claims would be acquired by the Army Corps of Engineers on behalf of the Army. No new mining claims would be allowed in the LHTA. No new mine operating permits or amendments to existing

Operating Permits for mine expansion purposes would be allowed to be issued within the LHTA in areas where mining activities might conflict with the MTARNG ability to carry out its mission.

Under Alternative 1 land acquisition by the Army Corps of Engineers on behalf of the Army could extend to privately-owned lands located within the LHTA, including patented mining claims, assuming mining activity on these claims had the potential to hinder the MTARNG's ability to accomplish its mission. These privately-owned lands consist, in part, of 11 patented mining claims, some of which are owned by Graymont.

Graymont's ongoing mining activity is, for the most part (see exceptions below), not in conflict with the current military training mission, and therefore, Graymont's current mine operations within the existing mine permit area are anticipated to continue in accordance with existing Operating Permit #00105 issued by the State of Montana Department of Environmental Quality. If mining activities were determined to impact the MTARNG mission, patented and unpatented mining claims would be acquired by the Army Corps of Engineers on behalf of the Army. The Army Corps of Engineers would request that the Department of Interior perform validity examinations on the claims deemed to be in conflict to determine whether or not the claims meet the discovery test for a valuable mineral as required by the Mining Law. If the Department of the Interior determines that a discovery exists, then this is a property right that requires just compensation. Claims found to have no discovery would be contested through the normal administrative process, and could also be subject to additional court proceedings. The Army Corps of Engineers would be responsible for purchasing any mining claims taken. It is also possible that the COE could acquire any of the claims from Graymont without BLM action or concurrence through a negotiated agreement with Graymont.

Terminating Graymont's active mining operation would result in not excavating and relocating limestone ore and waste within the mine permit area (perhaps as much as 30 million tons of limestone ore would not be mined). Surface topography in the area would not be modified. It would also result in a loss of a portion of the capital investment in fixed mine facilities for Graymont. Additionally, it would result in a failure to recover valuable limestone commodity resources, and a loss of jobs and future employment opportunities. Fossils in the mine permit area would not be disturbed or destroyed by mining, but fossils within the LHTA are similar to those found commonly across southern Montana and are not considered to be either unusual or unique.

Current practices for administering mining claims would continue under Alternative 1. All patented mining claims and mineral rights associated with unpatented mining claims authorized by the *General Mining Law* and administered by BLM within the LHTA, which are determined by the Army Corps of Engineers to have no significant impact to military use of the LHTA or to impede the MTARNG in carrying out its mission, would not be affected after the withdrawal legislation is enacted.

Due to their location within surface danger zones (zones within the firing fan of various weapons shown in Figure 2-2), the high explosive impact zone (Figures 2-5a and b), and other active facilities or training areas, the MTARNG has designated 23 existing lode-mining claims and 71 placer-mining claims (94 total

claims) as being in conflict with the MTARNG's ability to carry out its mission at the present time. These are the red colored claims on Figures 2-5a and b. Under alternative 1, no mining activities could take place on these claims. Also under Alternative 1, any patented mining claims and the mineral rights associated with unpatented mining claims in conflict with the MTARNG's ability to carry out its mission would be acquired from Graymont or other owners by the Army Corps of Engineers. Presumably the mineral rights associated with these claims would be extinguished and the land withdrawn from future mineral entry. These claims cover about 1,600 acres of ground (since some claims in the northeastern portion of the LHATA overlap with one another).

The acquisition of these claims within the existing mine permit area (red claims on Figure 2-5a) would likely have only a minor adverse impact or no impact on Graymont's ability to mine or access limestone reserves within the current mine permit area. The minor adverse impact might occur along the southeast margin of the current mine permit boundary (Figures 2-5a and b, claims SWP 83, 84, 85, and 86; and claims SW 112, 113, 120, 121, and 130) where these claims could be acquired by the Army through the Army Corp of Engineers under protest of the claimant. These claims may contain small mineable limestone reserves and/or may be needed for surface access to mine identified reserves.

Red colored mining claims in the north-central portion of the LHATA (Figures 2-5a and b), east of the existing permit boundary area, overlay an outcrop belt of dolomite rock. Graymont believes that this belt has a potential for the development of future mineable reserves of dolomite and has proposed to mine this resource in its Operating and Reclamation Plan submitted to the DEQ for approval in 2006 (Resource Management Associates 2006). Graymont proposed two additional quarries to mine dolomite on BLM land in this area of the LHATA. If this plan were to be approved by DEQ and BLM, they could authorize additional mining within Graymont's holdings within this area identified as containing claims in conflict with respect to the MTARNG's ability to carry out its mission. However, under alternative 1, mining of dolomite resources on these red colored claims would not be allowed and any patented mining claims or mineral rights associated with unpatented mining claims could be acquired by the Army Corps of Engineers on behalf of the Army. Although Graymont has drilled and processed a bulk sample from the dolomite confirming its market suitability (Graymont, personal communication, 2006), Graymont has neither thoroughly explored the dolomite mineral potential nor evaluated its economic feasibility for mining at the Indian Creek Mine site. Under Alternative 1, however, no new operating permits would be issued by the Montana Department of Environmental Quality or mining plans of operations approved by the BLM to mine the designated dolomite reserves within the LHATA.

The ability to explore and develop mineral deposits on claims located outside surface danger and impact zones (Figures 2-5a and 2-5b) is not expected to change as a result of the withdrawal. However, the potential for expansion of MTARNG mission requirements means that these claims could be determined to have an impact on military use and might then require validation and could be acquired by the Army Corps of Engineers for the Army.

Yellow colored claims on Figures 2-5a and 2-5b are claims whose use is currently restricted by the presence of unexploded ordnance and their occurrence within a Surface Danger Zone (an area in which

you might be hit by munitions while the MTARNG is training). The proposed action calls for the Army to clear claims of unexploded ordnance within the current mine permit boundary area by 2008. The clearing will be conducted on a priority basis that is designated by Graymont based on its mining priorities. This schedule envisions current levels of both funding and effort with respect to clearing the unexploded ordnance from the claims. The Army is currently able to clear about 25 acres per year meaning that as many as 16 years might elapse should the entire surface areas of these 20 claims need to be cleared. Under Alternative 1, the BLM would provide Graymont with authorization to proceed in areas approved by the Department of Defense Explosives Safety Board (DDESB) as adequately cleared of unexploded ordnance hazards.

Exploration activities have delineated significant exploration potential for additional limestone mineralization and the development of additional inferred resources on claims staked south of the current southern mine permit boundary (both yellow and green colored claims, Figure 2-5a). In February of 2006, Graymont submitted an Operating and Reclamation Plan (Resource Management Associates 2006) to the MDEQ and the BLM, for a proposed quarry expansion to mine limestone on BLM land south of the current southern mine permit boundary within the LHTA. If this Plan is approved by DEQ and BLM, it could authorize additional mining within this recently staked claim block, assuming the ground were approved for this activity by the DDESB once it had been cleared of UXO by the MTARNG. Once again, if these claims were determined to impact the ability of the MTARNG to accomplish its mission, the claims and mineral rights could be acquired by the Army Corps of Engineers on behalf of the Army. This would result in a long-term, major impact to Graymont's ability to mine limestone resources on this southern claim block.

4.3.2 EFFECTS OF ALTERNATIVE 2

Alternative 2 would not be expected to impact the management of mineral resources. Under Alternative 2, the MTARNG and BLM would share resource management responsibilities so that most resources in the closure area would be managed by the MTARNG and most resources in the non-closure area managed by the BLM. The MTARNG would obtain the minimum land area, uses and rights necessary to accomplish its training objectives in a safe and generally unimpeded manner. Mineral resources on public lands within the LHTA would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws. On a local level, mineral resources would continue to be managed by the BLM Butte Field Office in accordance with the most current Butte Field Office *Resource Management Plan* (BLM 1984b), and the *General Mining Law*. Claimants would retain mineral rights on all mining claims that would not impact the military mission. Unpatented mining claims that would impact the military mission would undergo a validation examination and could be acquired by the Army through the Army Corps of Engineers.

As with Alternative 1, a number of claims are presently identified as being in conflict with the current military mission (94 red colored claims of Figures 2-5a and b). No mining activities could take place on the claims while the withdrawal was in effect (which is the same as the existing condition) as they are currently designated as being in conflict with the MTARNG's ability to carry out its mission. The Army

Corps of Engineers could acquire any patented mining claims and the mineral rights associated with these unpatented mining claims. This would have the same effects as those described for mining of limestone and dolomite on red colored claims under alternative 1

Minor changes in the boundaries of the withdrawn land under Alternative 2, would have no impact on current or potential future mining activities. Under Alternative 2, privately owned land within the LHTA would not be considered withdrawn land and therefore, private property owners could not be forced to sell their land to the Army based on needs required by their mission. Some of this privately owned land is patented mining claims.

Under Alternative 2, mission requirements of the MTARNG over the next 25 years would be expanded only to the extent that existing non-military patterns of use of the LHTA would remain the same. Under Alternative 2, the MTARNG military mission would not be allowed to expand into areas that would increase conflict with mining activities or the possession of privately owned in-holdings. Also under Alternative 2, mining activities consistent with mission range requirements described in Section 2.2.1 would be allowed throughout the entire LHTA. In addition, as opposed to the proposed action, Alternative 2 allows the BLM and the Montana Department of Environmental Quality to issue mine expansion permit amendments or new operating permits with the approval of the MTARNG based on safety and access issues only on all claims within the LHTA, except those currently deemed to be in conflict with the MTARNG mission (red claims on Figures 2-5a and 2-5b).

All operations within the mine permit area, and activities on mining claims within the LHTA would continue to be subject to the terms and conditions outlined in the Memorandum of Agreement between the MTARNG, BLM and Graymont (Appendix F).

4.3.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Alternative 3 also modifies the MTARNG resource management approach to include management practices similar to those currently in place under BLM's *Federal Land Management Policy Act*. Impacts to mineral resources and mining would be the same as existing conditions and those described under Alternative 2.

4.3.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Under the no action alternative, the MTARNG would continue to use the LHTA as it is currently used under the existing right-of-way grant until the grant expires or ends on or before March 26, 2014. Up until that time, no major new impacts to geology and mineral resources are expected. After the right-of-way grant is terminated, impacts to mining could be major, adverse, and long term. The MTARNG would be required to stop any use of the LHTA and relieve itself of most management activities of the LHTA some time before expiration of the right-of-way grant. Up until the right of way is terminated, the MTARNG would continue to prioritize clearance activities so that unexploded ordnance hazards would be removed in the mine permit area, and would then prioritize the location of unexploded

ordnance removal based on mining needs and safety requirements for the general public in the closure areas.

If the Army Corps of Engineers or other responsible agency assumes UXO management of the closed area after termination of the right of way, they may determine that areas previously deemed cleared by the Department of Defense Explosives Safety Board are not safe enough for intrusive surface disturbing activities such as mining. This is actually a likely outcome because the Army has never approved this kind of clearance as providing an acceptable risk for surface disturbing activities on other similar properties under its management jurisdiction. Under these conditions, exploration and development of mineral deposits on claims located in closed or previously "cleared" areas could be prohibited by the land managing agent for the Army. Although the Army would retain responsibility for unexploded ordnance management and cleanup after termination of the right-of-way, the clearance rate is likely to slow or stop while cleanup priorities are established.

Mineral resources on public lands within the LHTA would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws. On a local level, mineral resources would continue to be managed by the BLM Butte Field Office in accordance with the most current Butte Field Office *Resource Management Plan* (BLM 1984b), and the *General Mining Law*. Assuming all of the lands within the existing mine permit boundary area are cleared, mining would continue under the existing Graymont plan of operations. However, once the MTARNG ceases to train on the LHTA future mining proposals would not require review by the MTARNG. Any surface disturbances on previously closed lands inside or outside of the existing mine permit boundary area would thereafter require the concurrence by the agent for the Army (based on safety and access issues only). Mineral exploration activity and new mine operating permits would require concurrence by the Army based on safety and access issues only. Mine permit conditions and restrictions with respect to military training would no longer apply after military use is terminated.

Mineral exploration activity and new mine operating permits or permit amendments would require concurrence by the agent of the Army based solely on safety and access issues prior to permitting by the Montana Department of Environmental Quality and BLM. After the MTARNG no longer uses the LHTA, the identification of safety and access issues would be the responsibility of the Army (probably through the Army Corps of Engineers) and would be determined for both proposed and existing mining operations on closed and previously cleared lands. It is possible that exploration and development of mineral deposits could be prohibited, and existing mining operations suspended, in areas that are closed or were previously cleared of UXO until such time that the Army determined that any proposal to mine represented an acceptable risk for surface-related mining activities.

The existing mine permit conditions and restrictions with respect to Graymont's operations would not likely change as a result of the no action alternative, since most of the land within the current mine permit area would already have been cleared (2008), disturbed and be in production by the time the MTARNG terminated use of the LHTA. However, future limestone exploration and development activities particularly in staked areas to the south of the existing mine permit area, even for permitted

operations, could be suspended for perceived safety reasons in closed and previously cleared areas that had not already been disturbed. Presumably areas of dolomite mineral potential to the east of the current limestone mining area, could be permitted for mining, so long as the area was deemed cleared of UXO, because the MTARNG would no longer be using the potentially conflicted surface area for their military mission.

Under the no action alternative (Alternative 4), the MTARNG would continue to use the community gravel pit within the LHTA while the right-of-way grant is in place as a source of material for range maintenance as allowed under the right-of-way grant.

4.4 SOIL RESOURCES

Adverse impacts to soils, in general, are associated with disturbances to the soil surface that would cause increased soil erosion and sedimentation, and increased soil compaction. Disturbances to the soil surface could result from the construction of new roads, fences, or range improvement projects. Soil compaction at the LHTA is primarily associated with livestock and other ungulate trampling and vehicle use.

Impacts to soil would be minor and beneficial under Alternative 1, and minor to none under Alternatives 2, 3 and 4. Under Alternative 1, soil stability would be minor, beneficial and long-term in the closure area if all land uses with the exception of military use were prohibited. Alternatives 2 and 3 would result in no appreciable change to soil stability or fertility when compared with existing conditions. Under the no action alternative, soils could experience minor long-term beneficial impacts if all land uses in the closure area were prohibited after termination of the right-of-way grant. Impacts to soil resources for each alternative are described in detail in this section.

4.4.1 EFFECTS OF ALTERNATIVE 1

Soil impacts under Alternative 1 would be associated with potential changes in livestock grazing and would be minor and beneficial. The MTARNG would manage grazing use in portions of the Dowdy Ditch, Section 33, and Limestone Hills allotments, and all of the Limestone East allotment in accordance with Title 43, Chapter 8A, Subchapter 315q. The MTARNG would allow the current grazing permittees to continue grazing until their individual allotment permits expire (generally 5 to 8 more years). After that time, the MTARNG would either eliminate grazing in that allotment, or authorize grazing on a competitive, highest bid basis.

Range improvement projects, such as additional fencing and watering locations, would be more likely to occur when the grazing allotments are managed at a highest bid basis. Additional fencing and watering to distribute livestock to lesser grazed areas in large allotments are standard range improvement practices that create short-term disturbances to soils and vegetation, but in the long-term help reduce potential over-grazing and livestock trampling in concentrated areas. Increased soil erosion and offsite sedimentation would be mitigable during any construction project by implementing best management practices for soils. However, soil best management practices could be implemented under any of the alternatives. A short-term impact to soils would be associated with the construction of a fence around the high-explosive active impact area to restrict livestock entry, if implemented.

Eliminating grazing from a currently grazed allotment after the current lease expires would generally improve the range condition and have a related beneficial affect on soils. Eliminating grazing as a landuse at the LHTA would benefit soil stability by reducing the incidences of erosion caused by reduced occurrence and variety of vegetation. Soil productivity would also beneficially be affected due to the elimination of soil compaction from livestock trampling.

The change to selecting the grazing permittee through the highest bid process would have no impact to soils from the current condition because management practices are expected to be similar.

4.4.2 EFFECTS OF ALTERNATIVE 2

Implementation of Alternative 2 would result in no change to soils from existing conditions. Under Alternative 2, impacts to soils would be tied to potential grazing scenarios for allotments in the LHTA and use of the LHTA by other ungulates. Existing grazing allotment permit conditions would remain in place with grazing and range improvement projects managed by the BLM under the *Federal Land Policy and Management Act* and in accordance with regulations governing grazing management in 43 Code of Federal Regulations 4100 and the *Butte Field Office Resource Management Plan*. The fence around the high-explosive active impact area would not be constructed.

4.4.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Implementation of the preferred alternative would result in no change to soils from existing conditions. Under Alternative 3, impacts to soils would be tied to potential grazing scenarios for allotments in the LHTA and use of the LHTA by other ungulates. Existing grazing allotment permit conditions would remain in place, but grazing management responsibilities would shift from the BLM to the MTARNG. Existing permit holders would continue grazing under their current leases and have the option to renew their permits for a 20-year period. The fence around the high-explosive active impact area would not be constructed.

4.4.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Under the no action alternative, impacts to soils would also be tied to potential grazing scenarios for the LHTA and would be minor and beneficial. Grazing on federal land throughout the entire LHTA would continue to be managed by the BLM under the *Federal Land Policy and Management Act* and in accordance with regulations governing grazing management under 43 Code of Federal Regulations 4100, and the *Butte Field Office Resource Management Plan*. While the MTARNG right-of-way grant remained in effect, grazing would be permitted on the same grazing allotments as described under existing conditions in Section 3.1.3.1. After termination of the right-of-way, continued use of all or portions of the LHTA for grazing would be dependant on the safety recommendations of the responsible agency.

Continuation of existing grazing permit conditions would result in no change in impacts to soils. Eliminating grazing could benefit soil stability by reducing the incidences of erosion due to loss of vegetation. Soil productivity could be improved by reducing soil compaction due to livestock trampling.

4.5 WATER RESOURCES

Water quality is considered by the BLM as a Critical Element of the Human Environment. The LHTA boundary as defined under all action alternatives excludes all perennial sources of surface water from the LHTA; however, numerous intermittent drainages, springs, and groundwater withdrawals would potentially be affected by activities described in the alternatives. In the case of the LHTA, the primary threat to water quality is associated with activities that increase soil instability and erosion.

No major impacts to water resources are anticipated as a result of implementation of any of the four alternatives. Surface water resources could experience minor short term beneficial affects due to reduction in the sources of erosion if all non-military land use in the LHTA were prohibited under Alternative 1 and after termination of the right-of-way grant under Alternative 4. Alternatives 2 and 3 would not result in impacts to water resources compared to existing conditions. Water rights could experience major long-term adverse impacts under Alternative 1 if private land belonging to landowners that held water rights was involuntarily acquired by the federal government. Impacts to water resources for each alternative are described in detail in this section.

4.5.1 EFFECTS OF ALTERNATIVE 1

Implementation of Alternative 1 could result in minor beneficial impacts to surface water resources and major adverse impacts to individual water rights. Under Alternative 1, the MTARNG would be responsible for implementing water resource protection practices throughout the entire LHTA. Management of water resources would be conducted under the *LHTA Integrated Natural Resource Management Plan* and in accordance with all applicable state and federal requirements. Water rights and water withdrawals would continue to be managed by the Montana Department of Natural Resource and Conservation.

IMPACTS TO WATER QUALITY FROM MILITARY ACTIVITIES

The MTARNG proposes to conduct all activities so as to minimize erosion and protect water resources in the same manner as under existing conditions (in accordance with the right-of-way grant and state, federal and local requirements). No change in water quality is expected to result from military activities.

IMPACTS TO WATER QUALITY FROM NON-MILITARY ACTIVITIES

Under Alternative 1, the following activities could be terminated at the LHTA: grazing, mineral exploration and extraction, recreational use of roads, hunting, and private land ownership. If mining activities were terminated, the mine would be reclaimed in accordance with the Montana Department of Environmental Quality permit so that water quality would be unaffected by reclamation activities. Because the mine is currently permitted to mine within the footprint shown in Figure 2-1 under the condition that existing water quality is maintained, water quality protection would remain the same with

or without the continuation of mining activities within the permitted area. Termination of grazing in the LHTA would be expected to reduce soil compaction and increase vegetation in some areas. This would have a minor beneficial impact to water resources by improving the infiltration capacity of the soil. Water quality would not be expected to change from the continuation or elimination of recreational activities or the presence of private land.

IMPACTS TO WATER QUALITY FROM CHANGES IN THE LHTA BOUNDARY

Under Alternative 1, the boundary of the LHTA would exclude Indian Creek. This is different from existing conditions, in which approximately one mile of Indian Creek flows through the northwest corner of the LHTA. Excluding Indian Creek from the LHTA would not affect water quality.

IMPACTS TO WATER RIGHTS

No new water supply wells or additional withdrawals from surface water are proposed under Alternative 1, therefore, no impacts to water quantity in the LHTA are anticipated. However, the private landowners' rights to use water would be adversely affected if they were no longer allowed access to the land, or if the land were acquired by the Department of the Army. This would result in a long-term major adverse impact to nonmilitary water rights holders in the LHTA.

4.5.2 EFFECTS OF ALTERNATIVE 2

Alternative 2 would not be expected to impact water resources. Under Alternative 2, the MTARNG would be responsible for implementing water resource protection practices in the closure area west of Old Woman's Grave Road, and the BLM would be responsible for water quality in the nonclosure area. Management of water resources by both the BLM and the MTARNG would be conducted in accordance with all applicable state and federal requirements. Water rights and water withdrawals would continue to be managed by the Montana Department of Natural Resource and Conservation.

IMPACTS TO WATER QUALITY FROM MILITARY ACTIVITIES

Because military activities would be the same as existing conditions, no change in water quality resulting from military use is anticipated under Alternative 2.

IMPACTS TO WATER QUALITY FROM NON-MILITARY ACTIVITIES

Under Alternative 2, all non-military land uses would be expected to continue as under existing conditions. No impact to water quality is expected to occur from non-military activities at the LHTA.

IMPACTS TO WATER QUALITY FROM CHANGES IN THE LHTA BOUNDARY

Impacts would be the same as under Alternative 1. Water quality would not be affected.

IMPACTS TO WATER RIGHTS

No impacts to water rights are anticipated under Alternative 2.

4.5.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Under the preferred alternative, as in Alternative 1, the MTARNG would be responsible for implementing water resource protection practices throughout the entire LHTA. Management of water resources would be conducted under the LHTA *Integrated Natural Resource Management Plan* and in accordance with all applicable state and federal requirements. Water rights and water withdrawals would continue to be managed by the Montana Department of Natural Resource and Conservation.

IMPACTS TO WATER QUALITY FROM MILITARY ACTIVITIES

Because military activities would be the same as existing conditions, no impacts to water quality resulting from military use is anticipated under Alternative 3.

IMPACTS TO WATER QUALITY FROM NON-MILITARY ACTIVITIES

Impacts would be the same as those described for Alternative 2. No impacts to water quality is expected to occur from nonmilitary activities at the LHTA.

IMPACTS TO WATER QUALITY FROM CHANGES IN THE LHTA BOUNDARY

Impacts would be the same as those described for Alternatives 1 and 2. Water quality would not be affected.

IMPACTS TO WATER RIGHTS

No new water supply wells or additional withdrawals from surface water are proposed under Alternative 3, therefore, no impacts to water quantity or water rights in the LHTA are anticipated.

4.5.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Implementation of Alternative 4 could result in minor beneficial impacts to water quality. Under Alternative 4, the BLM would continue to implement water resource protection practices throughout the entire LHTA. Management of water resources would be conducted under the most recent BLM Butte Field Office *Resource Management Plan* and in accordance with all applicable state and federal requirements. Water rights and water withdrawals would continue to be managed by the Montana Department of Natural Resource and Conservation. After the MTARNG ceased use of the LHTA, mining activities, grazing, and road use in the closure could be curtailed or terminated.

IMPACTS TO WATER QUALITY FROM MILITARY ACTIVITIES

The BLM would continue to oversee MTARNG activities so as to minimize erosion and protect water resources in the same manner as under existing conditions (in accordance with the right-of-way grant and the Butte Field Office *Resource Management Plan*) until the MTARNG ceased use of the LHTA sometime before March 26, 2014. No change in water quality is expected to result from military activities under Alternative 4. The cessation of military activities would likely result in reduced road use, elimination of ground disturbance by ordnance, curtailed or terminated mining activities, and reduced likelihood of loss of vegetation from fire. Ending these activities would reduce the risk to surface water resource quality and have a minor beneficial impact.

IMPACTS TO WATER QUALITY FROM CHANGES IN THE LHTA BOUNDARY

Under Alternative 4, the boundary of the LHTA would continue to include a portion of Indian Creek. Use or protection of Indian Creek would not change from existing conditions.

IMPACTS TO WATER RIGHTS

No new water supply wells or additional withdrawals from surface water are proposed under Alternative 4. Use of two existing wells by the MTARNG would cease after the MTARNG no longer used the LHTA. Because existing withdrawal rates of the MTARNG wells are minimal, no impact to water quantity in the LHTA is anticipated as a result of implementing Alternative 4.

4.6 VEGETATION AND WETLAND RESOURCES

This section addresses impacts to vegetation and wetlands in the study area. Wetlands and riparian areas, noxious weeds and non-native invasives, and threatened and endangered vegetation species are considered by the BLM to be Critical Elements of the Human Environment.

Impacts to vegetation and wetland resources would be minor and beneficial under Alternative 1, and minor to none under Alternatives 2, 3 and 4. Under Alternative 1, vegetation cover and diversity would experience minor beneficial impacts if all activities except for military activities were prohibited in the LHTA. Under Alternatives 2 and 3, vegetation cover and diversity would remain similar to existing conditions. Under Alternative 4, after termination of the right-of-way grant, vegetation in the closure area would likely experience minor beneficial impacts if all land use were prohibited. No impacts to special status species are anticipated from the implementation of any of the four alternatives. Impacts to vegetation resources for each alternative are described in detail in this section.

4.6.1 EFFECTS OF ALTERNATIVE 1

Implementation of Alternative 1 would likely result in minor beneficial impacts to vegetation resources. Native vegetation ground cover in the LHTA has been historically affected primarily by livestock grazing, mining, fire, noxious weeds and traffic (military exercises and public access/use). Under Alternative 1, management of each category would be the responsibility of the MTARNG, except mining, which would continue to be managed by the BLM. The administrative change under the proposed action would not be expected to result in substantial changes to vegetation or wetland resources in the LHTA, with the possible exceptions of grazing, mining, and military exercises.

Potential impacts to vegetation under Alternative 1 could include:

- If domestic livestock grazing were reduced or eliminated, there would likely be an upward trend in range condition, greater plant cover, and vegetation diversity (WESTECH 1999).
- If mining activities in the area were curtailed or eliminated, there would be relatively less removal of vegetation types in the closure area, particularly mountain mahogany and conifers. This would be a short-term impact due to post mining reclamation.
- Acquisition of state and private lands within the LHTA by the military would eliminate all nonmilitary activities, resulting in reduced road use and improved weed control.

IMPACTS FROM GRAZING

The potential impacts from grazing for the two events associated with Alternative 1 are described in this section. Eliminating grazing throughout the LHTA would likely have a beneficial change (improvement) in range condition and also a slight beneficial change for noxious weeds (decreased amount). Eliminating grazing from a currently grazed allotment after the current lease expires could result in an upward trend

in range condition and increase desirable plants in the long term. For example, five transects in the Conifer Woodland types (Douglas fir, Juniper, Whitebark Pine, shown in Figure 3-9) of the LHTA are estimated to have "fair" range condition which is attributed to both natural erosion and livestock grazing (WESTECH 1999). The fair range condition for the "Conifer Woodland" types may trend upward toward a good rating under no grazing. Primary wetland plant communities have been degraded by ungulate grazing and trampling, at least partially attributable to cattle. These vegetated areas would likely benefit if livestock grazing were eliminated although impacts from other ungulate grazing and trampling could still occur.

The selection of a new grazing permittee through the highest bid process would not expect to have an adverse or beneficial impact to vegetation because the allotment would be managed using similar practices and animal units monthly (AUM).

MINING-RELATED IMPACTS

Under existing conditions, all large vegetation (mountain mahogany and conifers) are removed in advance of mining operations to clear land for excavation, roads, and overburden piles. The termination of mining activities would result in a short-term beneficial impact to vegetation within the permitted mine operation area.

SPECIAL STATUS PLANT SPECIES

No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA, and none have been recorded within the LHTA during recent vegetation inventories. A BLM sensitive plant species, lesser rushy milkvetch, does occur in the area of the LHTA. The administrative change under the proposed action would not materially change the health of the existing lesser rushy milkvetch populations or habitat. Therefore, no positive or negative impacts would be expected to occur under any of the four alternatives considered.

4.6.2 EFFECTS OF ALTERNATIVE 2

Alternative 2 is not expected to result in adverse impacts to vegetation resources. Some minor beneficial impacts could occur. Under Alternative 2, the MTARNG would assume management of most land use responsibilities affecting vegetation resources within the closure portion of the LHTA (except mining and grazing management) while the BLM would retain management authority in the non-closure area. This administrative change would not result in substantial changes to vegetation resources in the LHTA, as the BLM would retain responsibility for grazing and mining management throughout the LHTA.

Potential impacts to vegetation and wetlands under Alternative 2 could include:

- Mining expansion on certain portions of the limestone ridges in the closure area that are determined to conflict with the MTARNG mission could be curtailed or eliminated, resulting in relatively less disturbance of associated vegetation types, particularly mountain mahogany.
- Livestock grazing in both the closure and non-closure areas would be managed by the BLM, and would be expected to continue according to current allotment agreements.
- Acquisition of state and private lands within the LHTA by the military may reduce some non-military activities (such as grazing) thereby reducing impacts to vegetation cover, composition and diversity.

SPECIAL STATUS PLANT SPECIES

Special status plant species conditions would be the same as described for Alternative 1.

4.6.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Implementation of the preferred alternative would not likely result in adverse impacts to vegetation resources. Some minor beneficial impacts could occur. Under Alternative 3, the administrative change in management of the LHTA would be essentially the same as that of Alternative 1, however vegetation resource management in practice would be similar to Alternative 2 in that mission requirements would not preclude existing non-military use patterns of the LHTA. In particular, livestock grazing would be managed by the MTARNG in the same manner it is currently managed by the BLM. Potential positive and negative impacts to vegetation resources under Alternative 3 would be the same as those described for Alternative 2.

SPECIAL STATUS PLANT SPECIES

Special status plant species conditions would be the same as described for Alternative 1, that is, no impacts to special status plant species are anticipated.

4.6.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Alternative 4 would not be expected to result in significant changes to vegetation resources in the training area for the period of time the land was used for military training. Under Alternative 4, the BLM would retain its role as managers of vegetation resources within the LHTA; however, minor beneficial impacts may result after the right-of-way is terminated. Grazing and mining effects would also proceed as under current management practices. Fire control and noxious weed control would continue to be managed under current practices. After the MTARNG terminated use of the LHTA, vegetation would continue to be managed by the BLM. Fires started by military training would no longer take place and on-site firefighting equipment and crews would no longer be in effect on the LHTA. These actions would likely result in fewer spot fires that are immediately extinguished and larger

fires caused by natural events. If mining were prohibited from the closure area, remaining mountain mahogany and conifers in the operating mine permitted footprint would not be removed. If UXO clearance activities ceased, some vegetation removal would be reduced. These would have a long-term minor beneficial impact on vegetation resources.

SPECIAL STATUS PLANT SPECIES

Special status plant species conditions would be the same as described for Alternative 1, no impacts are anticipated.

4.7 FISH AND WILDLIFE RESOURCES

This section addresses impacts to fish and wildlife, including special status (such as threatened and endangered) species. Threatened and endangered species are one of BLM's Critical Elements to Human Environment.

Aquatic habitats in Indian Creek in and near the LHTA have been degraded by historic placer, hydraulic and dredge mining, and the only salmonid suspected to be in this portion of the creek, the non-native brook trout, is considered rare. Alternatives 1, 2 and 3 would change the boundary of the LHTA, effectively making Indian Creek outside the northern boundary of the training area (Figure 2-1).

Portions of the creek within the existing LHTA boundary that would be removed from the training area under Alternatives 1, 2 and 3 would be managed by the BLM.

Under all four alternatives considered in this EIS, military training exercises in the LHTA would be prohibited from the end of the general hunting season (usually late November) to the second Monday in April, to minimize disturbance to big game wintering in the training area. Under all alternatives, the closure area shown in Figure 2-1 would remain closed to hunting, trapping and any public access except as described for each alternative in Sections 2.1, 2.2, 2.3, and 2.4. This closure would provide additional security to some wildlife species.

Fish and wildlife resources are a function of their physical and biological environment, including human use of that environment. For example, past military training and the development of the LHTA have resulted in minor changes to wildlife habitat in the Limestone Hills, but have substantially affected human use of those habitats, particularly in the closed area west of the Old Woman's Grave Road.

Consequently, most impacts to fish and wildlife resources under all four alternatives would be expected to be minor because there would be comparatively little or no change to existing environmental conditions. Most changes that could occur would be in response to gradual changes in land use and/or management, such as changes in livestock grazing, vegetation management, land ownership, mining, recreation and (under Alternative 4) military training. As illustrated in the discussions in Chapter 2, many of these changes are potential, i.e., they may or may not occur. Therefore, depending on the wildlife species or species group, such changes could range from minor beneficial to minor adverse effect, or have no effect. Most of these effects would be common to all alternatives. Therefore, the following sections of the EIS discuss those minor effects that could potentially differ between alternatives.

All four alternatives considered in this EIS would be expected to have the same potential impacts to special status species. Because military activities described under Alternatives 1, 2, and 3 would not change from existing condition, expected impacts to the habitats preferred by these species would not change. If federally listed or proposed endangered or threatened fish or wildlife species appear to become endemic to the LHTA in the future, the MTARNG would report such use to the U.S. Fish and

Wildlife Service under any alternative. The BLM would be expected to implement its planning process for "sensitive species" for lands under its wildlife management direction under any alternative.

Under Alternative 4, military training activities would eventually end. Under Alternative 4, wildlife would be expected to experience short-term beneficial impact if all land uses were prohibited in the closure area until UXO risk was reduced to levels suitable for surface uses such as hunting and grazing.

4.7.1 EFFECTS OF ALTERNATIVE 1

Implementation of Alternative 1 could potentially have a minor beneficial impact to wildlife. No adverse impacts to wildlife are anticipated under Alternative 1. Under Alternative 1, the BLM would no longer have a role in the management of wildlife habitats within the LHTA. This role would be assumed by the MTARNG (wildlife habitat improvement and protection, as well as access control and management of other natural resources except minerals), Montana Department of Fish, Wildlife and Parks (game harvest), and the U.S. Fish and Wildlife Service (certain federally regulated species). The MTARNG would request to become a signatory to the multi-agency Memorandum of Understanding for the Elkhorns Cooperative Management Area, and would comply with the principles and objectives set forth in the Memorandum of Understanding. The MTARNG would also amend its *Integrated Natural Resource Management Plan* to provide for annual meetings with Montana Department of Fish, Wildlife and Parks to discuss wildlife management issues in the training area.

This administrative change would not result in substantial changes to wildlife habitats in the LHTA, although the MTARNG would have more flexibility to implement wildlife habitat management and protection measures under its various planning documents described in Section 2.1.2. Alternative 1 would not be expected to result in a change in wildlife diversity, or the types and seasons of wildlife use of the training area.

Potential beneficial impacts to wildlife under Alternative 1 include:

- If non-federal (that is, state and private) lands within the LHTA are acquired by the Army for incorporation into the training area, non-military activities associated with these lands (home or camp sites, traffic, certain recreational uses, etc.) would be reduced or eliminated, reducing conflicts for habitat and security for some wildlife species.
- If domestic livestock grazing were reduced or eliminated, the potential conflict with certain wildlife species groups would be reduced. In particular, elimination of domestic sheep grazing would reduce the potential for disease transmission to bighorn sheep using the training area.
- If vegetation clearance activities on the hogback ridges and slopes in the mine permit area were curtailed or eliminated, there would be less disturbance of the important mountain mahogany/shrub big game winter range habitat (see Section 4.6).

Potential adverse impacts to wildlife under Alternative 1 include:

- If the high explosive active impact area within the closure area (Figure 2-2) is fenced to deter human access, the fence could disrupt wildlife use of the active impact area and/or wildlife movement across the area. Depending on the type of fence that is constructed, this impact could be greatest to seasonal use by big game.
- The MTARNG plans to develop an LHTA recreational trails plan, in cooperation with the BLM, Montana Department of Fish, Wildlife, and Parks, and local citizens. Depending on the ultimate design and parameters of the trails plan, recreational use of these trails could displace or otherwise impact certain wildlife species, particularly non-game species in the non-closure area.

SPECIAL STATUS SPECIES

No federally listed or proposed endangered or threatened fish and wildlife species are found within the LHTA. No fish, amphibians or reptiles that are listed as "sensitive" by the BLM would be expected to occur in the training area. Six "sensitive" birds (ferruginous hawk, golden eagle, peregrine falcon, burrowing owl, loggerhead shrike, and Brewer's sparrow) could potentially occur in the LHTA, but only the Brewer's sparrow (sagebrush) is believed to currently nest there. Of five "sensitive" mammals (Preble's shrew, long-eared myotis, fringed myotis, long-legged myotis, and Townsend's big-eared bat) that could occur in the area, three (long-eared myotis, long-legged myotis and Townsend's big-eared bat) have been recorded along the Indian Creek. No impacts are anticipated.

4.7.2 EFFECTS OF ALTERNATIVE 2

Impacts to wildlife from Alternative 2 would likely be minor and beneficial if private land was acquired by the Army, and some mining activity was curtailed. Under Alternative 2, the MTARNG would assume management of wildlife habitats within the closure portion of the LHTA, while the BLM would retain management authority in the non-closure area. As in Alternative 1, the Montana Department of Fish, Wildlife, and Parks (game harvest), and the U.S. Fish and Wildlife Service (certain federally regulated species) would have management roles in both areas. The MTARNG would request to become a signatory to the multi-agency Memorandum of Understanding for the Elkhorns Cooperative Management Area, and would comply with the principles and objectives set forth in the Memorandum of Understanding. The MTARNG would also amend its *Integrated Natural Resource Management Plan* to provide for annual meetings with Montana Department of Fish, Wildlife and Parks to discuss wildlife management issues in the training area.

This administrative change would not result in substantial changes to wildlife habitats in the LHTA. The MTARNG would have more flexibility to implement wildlife habitat management and protection measures in the closure area under its various planning documents described in Section 2.1.2, while the BLM would retain responsibility for wildlife habitat management in the non-closure area. Alternative 2 would not be expected to result in a change in wildlife diversity, or the types and seasons of wildlife use of the training area.

Potential beneficial impacts to wildlife under Alternative 2 include:

- If non-federal (that is, state and private) lands within the LHTA are acquired or placed under easement by the Army, as described in section 2.2.7, some non-military activities associated with these lands (particularly building sites) would be reduced or eliminated, reducing conflicts for habitat and security for some wildlife species.

Potential adverse impacts to wildlife under Alternative 2 include:

- Livestock grazing in both the closure and non-closure areas would be managed by the BLM, and would be expected to continue at levels similar to the existing situation. Potential conflict with some wildlife species groups would continue to occur, particularly the potential for disease transmission from domestic sheep to bighorn sheep using the training area. This is the same as existing conditions.
- If requested by grazing permittee, the high explosive active impact area within the closure area (Figure 2-2) would be fenced to deter human access. If this area were fenced, the fence could disrupt wildlife use of the active impact area and/or wildlife movement across the area. Depending on the type of fence that is constructed, this impact could be greatest to seasonal use by big game.
- The MTARNG is currently developing an LHTA recreational trails plan, in cooperation with the BLM, the Montana Department of Fish, Wildlife and Parks, and local citizens. Depending on the ultimate design and parameters of the trails plan, recreational use of these trails could displace or otherwise impact certain wildlife species, particularly non-game species in the non-closure area. This is also planned under existing conditions.
- Mining expansion on certain portions of the hogback ridges in the closure area that are determined to conflict with the MTARNG mission could be curtailed or eliminated. In these areas there would be less mining-related disturbance of the important mountain mahogany/shrub big game winter range habitat.

SPECIAL STATUS SPECIES

Special status species conditions would be the same as that described under Alternative 1, no impacts are anticipated.

4.7.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Potential impacts to wildlife under the preferred alternative would be the same as those described for Alternative 2. Impacts would likely be minor and beneficial if some current land uses were curtailed due to acquisition of private land by the Army and reduction in planned mining disturbance. Under Alternative 3, the administrative change in management of the LHTA would be identical to that of Alternative 1. Although wildlife resource management would be the same as that described under Alternative 1, management of some other disciplines would not. Of particular relevance to wildlife, military land use would be managed identically to Alternative 2 (that is, some limitations would be

imposed on the military mission); minerals would be managed the same as under Alternative 2; and livestock grazing would be managed by the MTARNG identically to the way it is managed under the existing situation by the BLM.

This administrative change would not result in substantial changes to wildlife habitats in the LHTA, although the MTARNG would have more flexibility to implement wildlife habitat management and protection measures under its various planning documents described in Section 2.1.2. Alternative 3 would not be expected to result in a change in wildlife diversity, or the types and seasons of wildlife use of the training area.

SPECIAL STATUS SPECIES

Special status species conditions would be the same as that described under Alternative 1; no impacts are anticipated.

4.7.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Implementation of Alternative 4 would likely result in minor beneficial impacts to wildlife.

FISH

Under Alternative 4, the existing boundary of the LHTA would not change (Figure 2-1). Portions of the creek would remain in the training area, while other portions would be outside the boundary. This would be identical to the existing condition and would not be expected to result in any effect to the aquatic habitats of the creek.

WILDLIFE

Under Alternative 4, the BLM would retain its role as the primary manager of wildlife habitats within the LHTA, while the Montana Department of Fish, Wildlife, and Parks (game harvest), and the U.S. Fish and Wildlife Service (certain federally regulated species) would retain their respective roles. The MTARNG would request to become a signatory to the multi-agency Memorandum of Understanding for the Elkhorns Cooperative Management Area for duration of its use of the LHTA, and would comply with the principles and objectives set forth in the Memorandum of Understanding. The MTARNG would also coordinate with the Montana Department of Fish, Wildlife and Parks to manage wildlife habitat, to the extent practicable, to meet both the needs of the State of Montana and the military mission.

In terms of wildlife resource management, the MTARNG's role and responsibilities would remain the same as the existing situation until the right-of-way grant from the BLM is terminated. After that time, the MTARNG's role and responsibilities would be largely concentrated on unexploded ordnance clearance activities, particularly in the closure area. The BLM would manage the non-closure area, and portions of the closure area that are released after unexploded ordnance clearance, under its planning

policies. Since the unexploded ordnance hazard would be removed in the Graymont mine permit area before anywhere else, it is reasonable to assume that the mine could expand to the south in its identified claims area (in compliance with BLM and State of Montana rules and regulations) that are currently in conflict with the MTARNG's mission.

Alternative 4 would not be expected to result in a change in wildlife diversity, or the types and seasons of wildlife use of the training area. Assuming future expansion of the Graymont mine to the south, important mountain mahogany/shrub big game winter range could be disturbed, but would be reclaimed in accordance with the appropriate mine plans and state and federal regulations.

SPECIAL STATUS SPECIES

Special status species conditions would be the same as that described under Alternative 1; no impacts are anticipated.

4.8 CULTURAL RESOURCES

Cultural resources and Native American religious concerns are considered by the BLM as two Critical Elements of the Human Environment. This section of the EIS describes the potential effects to cultural resources that may result from implementation of each of the four alternatives. This introduction describes the methods and assumptions used in assessing effects of the alternatives and describes, in general, the types and source of impacts that may affect cultural resource properties. Sections 4.8.1 through 4.8.4 discuss impacts specific to the four alternatives. Action Alternatives 1, 2, and 3 would all result in minor impacts to cultural resources, both adverse and beneficial. No impacts to cultural resources would likely result from implementation of the no action alternative until 2014 when the Army right-of-way is terminated. After that time, adverse and beneficial effects would be expected.

METHODOLOGY AND ASSUMPTIONS

Characterization of the cultural resources in the proposed withdrawal area relied on previous inventories (see Table 3-24). Although all cultural resource properties have likely not been identified within the withdrawal area, particularly deeply buried archaeological sites, most of the land has been inventoried—albeit at varying levels of intensity. With a few notable exceptions, the previous inventories are sufficient to identify the range of cultural resource properties located in the LHTA. The LHTA contains a variety of prehistoric archaeological sites, historical mining sites and a few sites associated with agricultural development and early non-Indian settlement. In contrast, insufficient consultation has been conducted to determine if the withdrawal area contains properties of interest to American Indians, such as traditional cultural properties or sacred sites. Similarly, previous cultural resource inventories have focused on individual properties, not on landscape-scale inventory that may identify large-scale historic districts, such as historic mining or agricultural landscapes. The LHTA does not, however, contain historic-era military buildings and other infrastructure typically associated with military landscapes. Although many historic properties have been recorded, the National Register eligibility of most has not been resolved. The MTARNG is now updating the cultural resource inventory on 4,000 acres within the training area, including resolving the National Register eligibility of a sample of previously recorded prehistoric and historic archaeological sites recommended as ineligible for listing.

Both military and non-military uses within the LHTA may change within the proposed 25-year withdrawal period; however, the precise character of change cannot be predicted with certainty. With reference to military use, historically, the trend has been towards a lower level of impact within the training area—especially with regard to the type of vehicles used in training and in the ordnance used in the ranges. Therefore, estimating the consequences of the four alternatives on cultural resources is based upon assessing the impact of historical and current military and non-military uses. Any future specific proposals for new construction or range development will be addressed in separate NEPA evaluations.

An important assumption in assessing environmental consequences to cultural resources is that the transfer of management responsibility from the BLM to the MTARNG would not result in a lessening of resource protection for historic properties. Though the MTARNG is technically a state agency, as outlined in Army Regulation 200-4, its actions are subject to all applicable federal cultural resources laws and policies. There would be no lessening of protection for cultural resources if the MTARNG assumes management authority for resource protection. (Although private or state-sponsored activities that occur on private- and state-owned lands are not subject to federal cultural resource oversight, federally sponsored or permitted undertakings that affect private and/or state lands do require the application of federal statutes to management and protection of cultural resources.)

DIRECT AND INDIRECT EFFECTS

The range of potential impacts associated with the Proposed Action and alternatives is discussed by applying the criteria of "adverse effect" as outlined in Section 106 of the *National Historic Preservation Act* (NHPA). Generally speaking, any undertaking that negatively impacts any of the seven aspects of historical integrity (materials, workmanship, design, location, setting, feeling and association) of an eligible property would constitute an "adverse effect." Ground-disturbing activities that directly impact historic properties, as well as visual and/or auditory intrusions, all have the potential to produce "adverse effects," depending upon the character of significance of the historic property.

With regard to historical military uses within the LHTA, some types of ordnance delivery and detonation within the live-fire ranges, road building, and construction of permanent infrastructure have all been considered undertakings as defined by the NHPA and have been assessed for their potential to impact historic properties that are eligible for, or listed in, the National Register of Historic Places. Of these uses, however, only ordnance delivery has been determined to have adversely affected an eligible property—the Pilgrim Site (Site No. 24BW675), an archaeological property recommended as eligible for listing because of its potential to yield significant information regarding the prehistory of the area. This determination led to mitigation of adverse effect through data recovery.

With the exception of two historic sites, both located adjacent to the Indian Creek Road within the closure area, the eligible properties have been archaeological sites. Although integrity of the physical setting is important for both properties, neither would be particularly susceptible to auditory intrusions, such as may occur from ordnance delivery and detonation. The types of cultural resources that would be susceptible to noise could include some types of traditional cultural properties, principally religious or sacred sites, wherein a sense of isolation is requisite to the cultural use. Thus far, however, these types of properties have not been identified within the LHTA.¹

¹ The MTARNG *Integrated Cultural Resources Management Plan* includes a provision to begin consultation with interested Tribal groups to determine if the LHTA contains culturally significant resources that could be considered traditional cultural properties eligible for listing in the National Register of Historic Places, or as sacred sites as defined by Executive Order 13007.

Besides the Pilgrim Site, the eligible or listed properties within or near the proposed military withdrawal area include two historic-era painted signs and a mining ditch system. Although integrity of the physical setting is important for these properties, none is particularly susceptible to auditory intrusions, such as may occur from ordnance delivery and detonation. The types of properties that could be susceptible to the effects of noise include some traditional cultural properties, principally religious or sacred sites, wherein a sense of isolation is requisite to the traditional use. Thus far, however, these types of properties have not been identified within the LHTA.

Non-military land uses within the LHTA, principally the limestone mining and livestock grazing, also have the potential to adversely affect eligible historic properties. Mining especially, because of the disturbance associated with this industry, may result in the destruction of significant properties that may be located within mining-claim boundaries. Archaeological sites have been recorded within the allowable mine operations area and the mine permit area. Other than the Indian Creek Site (Site No. 24PW626), no sites within the withdrawal area have been recommended eligible for listing in the National Register of Historic Places. Livestock grazing could adversely affect some types of historic properties, principally archaeological sites. For example, overgrazing that results in increased erosion could, in turn, destroy archaeological deposits. In addition, because archaeological sites are often found in proximity to naturally occurring springs, spring development for livestock purposes could impact archaeological sites.

Fire suppression activities, particularly the excavation of fire lines with either hand tools or heavy machinery, also threatens historic properties—especially archaeological sites, whose eligibility often depends upon depositional integrity. Public recreation (hunting, hiking) and use of the existing transportation corridors would be less likely to adversely affect historic properties, although public access to lands within the non-closure area may subject significant historic properties to unauthorized artifact collecting and/or vandalism.

4.8.1 EFFECTS OF ALTERNATIVE I

Implementation of Alternative I would result in minor impacts to cultural resources, both beneficial and adverse. Under this alternative, the MTARNG would assume responsibility for managing cultural resources throughout the 18,644 acres of federal land within the withdrawal area, and for federal undertakings that may affect cultural resources on state and private land. As the responsible party for cultural resources, the MTARNG would be responsible for consultation as required under the National Historic Preservation Act for its own projects and activities as well as those proposed by other federal and private non-military users of federal lands within the training area to ensure compliance with Section 106 and other cultural resources legislation. The MTARNG *Integrated Cultural Resource Management Plan* would serve as the document guiding all aspects of cultural resources management within the LHTA.

Under this alternative, military land use would remain about the same as current levels. Approximately 388 acres currently closed to the public in the area south of Crow Creek Access Road and west of Old Woman's Grave Road would become open for public use. Also, the MTARNG proposes to enhance demarcation of the boundary between the closure and non-closure areas by erecting signs or fencing

adjacent to the Old Woman's Grave Road; it would also have the option to erect a fence around the 1,800-acre high explosive active impact area within the closure area.

CONSEQUENCES TO CULTURAL RESOURCES

Transferring the responsibility for managing cultural resources from the BLM to the MTARNG would not adversely affect cultural resources within the proposed withdrawal because the transfer would be from one federally mandated entity to another. Proposals for specific undertakings would still be subject to the provisions of the *National Historic Preservation Act* and the *National Environmental Policy Act*. The MTARNG Cultural Resource Manager would need to modify the MTARNG *Integrated Cultural Resource Management Plan* to include standards for fieldwork for cultural resource inventory projects; this could be done simply by adopting the BLM protocols for Class III inventories, or by consulting with the Montana State Historic Preservation Office on a case-by-case basis.

Specific actions associated with Alternative 1, including the proposal to erect signs or fencing along the closure/non-closure boundary and opening about 388 additional acres to public access, could result in adverse effect to significant properties. Erecting posts for signs and/or fencing requires ground disturbance that could impact significant archaeological sites. Several previously recorded properties are located in the vicinity of the closure/non-closure area, and it will be necessary to resolve the National Register eligibility of all of these prior to initiation of the fencing project. Additional inventory may be required in some areas to determine the presence or absence of significant historic properties. Reducing the closure area could result in eligible sites being more accessible and thus susceptible to vandalism. At least one property, 24BW670, a quarry/lithic scatter, is located adjacent to the revised closure/non-closure boundary, where it would be more accessible to the public.

At least one of the proposed changes in military use may affect significant cultural resource properties. Reconfiguration of surface danger zones, especially at ranges used for larger caliber ordnance that could cause ground disturbance, may impact previously undisturbed ground and the cultural resources located therein.

The potential impacts associated with expanding the MTARNG training mission are more difficult to quantify. In general, transferring private and state lands to federal ownership would afford greater protection to significant historic properties located on those lands. Similarly, the elimination of mining, as well as an increase in the size of the closure area, could afford more protection to significant properties located within the affected lands. However, because existing non-military land use would be eliminated only if military uses expand, a reduction in adverse effects associated with the former could be offset by an increase in the latter, depending upon the character of the expanded military use.

4.8.2 EFFECTS OF ALTERNATIVE 2

Alternative 2 offers minor beneficial impacts to protection of cultural resources, but would also result in a minor adverse impact to preservation. Under this alternative the responsibility for managing cultural resources within the withdrawal would be based upon the location of the resource, with the MTARNG serving as the lead agency for cultural resources located within the closure area (west of Old Woman's Grave Road), and the BLM retaining responsibility for cultural resources located in the non-closure area (east of Old Woman's Grave Road).

The proposals for demarcating the boundary between the closure/non-closure areas, reducing the area to be included within the closure area, and the proposed change in military use are the same as in Alternative 1. Under Alternative 2, however, the MTARNG would not fence the high explosive active impact area unless requested by grazing permittees. Also, the potential for expanding the military training mission would be constrained by non-military uses, which would be allowed to continue at existing levels. Under this alternative, the high explosive impact area would not be expanded.

The owners of in-holdings (private landowners and the State of Montana) would be required to either sell their property outright or sell an easement for use of the property that would last for the duration of the withdrawal. The sale of private and state property would be dependent upon the willingness of the grantor, and the availability of Army funding. If either one of these is lacking, the resulting easement would allow non-military uses to continue at existing levels, but would disallow the introduction of new uses that conflict with the military mission.

CONSEQUENCES TO CULTURAL RESOURCES

Consequences to the general management of cultural resources, as well as to specific properties, would be similar to those described under Alternative 1. All applicable federal cultural resources statutes would continue to apply to federal lands and to state and private land affected by federally sponsored or permitted undertakings. The MTARNG would need to develop standards for the conduct of cultural resource investigations within the closure area. The BLM would continue to manage cultural resources in the non-closure area guided by the Headwaters Resource Area *Resource Management Plan* and state guidelines and protocols for conducting cultural resource work.

A variety of factors may complicate the seemingly clear-cut division of responsibilities based upon legal location, however. For example, if historic properties straddle the closure/non-closure area, the MTARNG and the BLM could act as co-lead agencies, or one agency could defer to the other—depending upon how an undertaking affects the property. Similarly, the area of potential effects associated with a specific undertaking may encompass lands in both the closure and non-closure areas, in which case the same decisions would have to be made regarding which entity would serve as the lead for cultural resources investigations.

Potential impacts to cultural resources from specific undertakings associated with Alternative 2 are the same as those for Alternative 1, and could include ground disturbance related to erecting fencing and posts along the closure/non-closure boundary, opening 388 additional acres to public access, and disturbance associated with the reconfiguration of surface danger zones.

Because neither private property owners nor the State of Montana may be willing to sell land to the Army, the greater protection afforded to historic properties located on federal land may be less likely to occur under this alternative. However, federally sponsored or permitted actions that have the potential to affect significant properties on private- or state-owned lands would continue to be subject to federal cultural resources statutes.

4.8.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Implementation of the preferred alternative would likely result in minor beneficial and adverse impacts to protection and preservation of cultural resources. Under this alternative, the MTARNG would assume responsibility as the lead agency for managing cultural resources throughout the withdrawal area. Specific proposals for demarcating the boundary between the closure/non-closure areas, reducing the area to be included within the closure area, and the proposed change in military use are the same as in Alternative 1. However, like Alternative 2, the MTARNG would not fence the high explosive active impact area unless requested by grazing permittees. Alternative 3 also carries the same restrictions on expansion of the military mission as Alternative 2, so that the potential closure area could not be increased.

CONSEQUENCES TO CULTURAL RESOURCES

The consequences to cultural resources associated with Alternative 3 would be similar to those associated with Alternative 2. The exception is that the potential confusion that could result from sharing cultural resource management responsibilities within the LHTA would be eliminated.

4.8.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

No impacts are expected from implementation of Alternative 4 for the duration of the right-of-way. After which, impacts to cultural resources may be both minor adverse and beneficial. Under Alternative 4 the BLM would continue in its role as the lead federal agency for cultural resources, using its nationwide programmatic agreement, state protocols and the Headwaters Resource Area *Resource Management Plan* for guidance. Any work would be coordinated with BLM as the lead federal agency. As required by Army Regulation 200-4, the MTARNG would be responsible for meeting federal cultural resources responsibilities, and for completing the specific projects identified for the LHTA in the *Integrated Cultural Resource Management Plan*. Because integrated cultural resource management plans are updated every five years, the list of specific projects will change with each update, or, twice during the remaining life of the right-of-way grant. Sometime before March 26, 2014, the MTARNG's responsibilities for cultural resources management in the LHTA would end.

Under this alternative, the boundary of the LHTA would not change, nor would the size of the closure area. As a result, public access would remain the same as current levels until military use is terminated sometime before March 26, 2014. The specific proposal to improve delineation of the boundary between the closure and non-closure areas, through signage or fencing, is the same as in Alternative 1. The high explosive active impact area would not be fenced. The proposed changes in military use (reduced use of tracked vehicles, increased use of lighter vehicles, and changes in surface danger zone configurations) would continue until military use is terminated sometime before March 26, 2014. However, there is no potential for the MTARNG to expand its military mission; the ownership status of state and private lands would remain the same.

After military use is terminated, the Army would continue unexploded ordnance disposal. Presumably, when unexploded ordnance clearance is completed to a satisfactory level, the closure area would be open for recreation including hiking and hunting. The BLM would assess unexploded ordnance clearance activities to determine if they represent an undertaking as defined under Section 106 of the *National Historic Preservation Act*.

CONSEQUENCES TO CULTURAL RESOURCES

Under Alternative 4, cultural resources management within the LHTA would remain unchanged; the BLM would act as the lead federal agency to ensure compliance with Section 106 of the *National Historic Preservation Act*. The MTARNG would continue to fund and implement projects identified in the *Integrated Cultural Resource Management Plan*.

The potential impacts associated with marking the boundary between the closure/non-closure areas would be the same as for Alternative 2. The greater protection afforded historic properties located on federal land would not occur because neither state nor private lands would be conveyed into federal ownership.

Opening the closure area would provide unlimited public access to significant archaeological sites, which in turn could result in an increase in vandalism. Similarly, once unexploded ordnance clearance has been achieved, active mining could extend throughout the mine permit area and beyond onto adjacent claims. Potential impacts associated with these actions would have to be balanced against the elimination of potential impacts associated with MTARNG training activities.

None of the proposed changes in management responsibility for cultural resources would result in irreversible harm to specific historic properties.

4.9 SOCIOECONOMIC RESOURCES AND ENVIRONMENTAL JUSTICE

The proposed action would affect social and economic activities in the three county region of influence following implementation of the decision to withdraw (Alternatives 1, 2, and 3) or not to withdraw (Alternative 4) federal lands within the LHTA from the BLM and to reassign administrative responsibility to the MTARNG for military training purposes. Environmental Justice is considered by the BLM as one of the Critical Elements of the Human Environment and is also addressed in this section. The resulting effects of this decision are expected to have a variety of socioeconomic impacts dependent on the final alternative selected, as discussed in detail below. All impacts are assumed to occur in 2014, the year the existing BLM right-of-way expires and military uses cease, if Alternative 4 were implemented.

This section was written in compliance with the following guidance documents:

- National Guard Bureau *National Environmental Policy Act Handbook*, Guidance on Preparing Environmental Documentation for Army National Guard Actions in Compliance with the *National Environmental Policy Act of 1969* (U.S. Army Corps of Engineers [USACE] 2002)
- BLM Guide to Social Assessment (BLM 1982)
- Instruction Memorandum 2002-167, Guidance for Social and Economic Analysis (BLM 2002b)

Social and economic resources in the three county study area would be affected by implementation of all alternatives. Under Alternative 1, economic resources would experience major and significant adverse impacts if exploration, mining and milling activities associated with Graymont's Indian Creek mine were terminated; and there would also be a minor adverse economic impact from loss of grazing land. Social values and resources would likely experience a major adverse impact from loss of mining related jobs and ranch value. Alternatives 2 and 3 would result in long-term minor adverse impacts to county economic resources due to loss of some or all payments in lieu of tax revenue. Implementation of Alternative 4 would likely result in significant long-term adverse impacts to the local economy if all land use were prohibited from the closure area of the LHTA and a minor long-term adverse impact to Lewis and Clark County from the loss of MTARNG-related income after termination of the right-of-way grant. Impacts to social and economic resources for each alternative are described in detail in this section.

4.9.1 EFFECTS OF ALTERNATIVE 1

Alternative 1 would have a number of direct and indirect effects resulting from transferring the administrative responsibility of all the federal land within the LHTA from the BLM to the Army as a land withdrawal. Alternative 1 could have a long-term major adverse impact on opportunities for grazing, mining, and recreation, to Broadwater County. Each of the socioeconomic impacts associated with this alternative is presented below.

GRAZING

Under Alternative I the LHTA boundaries would be adjusted to eliminate two BLM grazing allotments located on the eastern and northern boundaries. The Bald Hills and Indian Creek grazing allotments would no longer be in the LHTA boundaries and would not be affected by selection of Alternative I. Management of the four allotments (Limestone East and portions of the Limestone Hills, Section 33, and Dowdy Ditch allotments) within the LHTA boundary would be transferred from the BLM to the MTARNG who would then manage the allotments in accordance with the *Sikes Act* and Department of Army requirements. Grazing use would be coordinated where possible with adjacent private operations and BLM permittees.

The MTARNG would allow grazing under the existing permit conditions until the end of the permit period. The MTARNG would either terminate grazing in the allotment at the end of the permit period or would authorize grazing on a competitive bid basis. With the reduced LHTA boundaries, there would be seven permittees utilizing the four allotments. Each BLM permit runs for 10 years. Under this alternative, no new grazing allotments would be authorized by the MTARNG.

The reduction or elimination of grazing opportunities would impact the local community, both in economic terms to the individual permittees and with regard to the general sense of the community as a ranching area. Land values of the ranches which lose their grazing allotments may be affected. Grazing privileges ride with ownership of the land and increase property values because of the potential for lease in terms of animal unit months (AUM) available with more grazing land. Each ranch utilizing these leases would face a different impact because of differences in the size of the deeded parcel and the maximum allowed AUM on a permitted area. One way of interpreting the value of a BLM grazing privilege is to compare the cost of an AUM on a BLM allotment with that of the state which rents two parcels on the LHTA. The difference is the implied value to the permittee. In 2003, the BLM charged \$1.35 for each AUM grazing on the LHTA allotments, while the State of Montana charged an average of \$5.24 for each AUM, implying a value of \$3.89 to the permittee for each AUM. Broadwater County views itself as an agricultural community and maintains great respect for the generations of families ranching in the area, seven of which could lose their grazing privileges under Alternative I.

Local permittees expressed concern at participating in the competitive bid process likely to occur under Alternative I. The primary concern is that environmental organizations may bid on the permits in order to keep cattle off the range, and because these bids do not have an economic stake in raising cattle, the organizations can bid higher than an individual rancher.

With allotments placed under the management of the MTARNG, BLM would forego current revenue generated by six grazing permittees with allotments in the LHTA, which generated over \$3,900 in 2003.

In addition, alternative grazing areas would need to be located and secured by each of the five permittees currently utilizing the program. Loss of access to the existing grazing areas and the substitution of a potentially more costly means of grazing livestock would likely decrease the profitability of ranching in the local area.

The MTARNG would also require grazing permittees to attend regularly scheduled unexploded ordnance safety briefings. The MTARNG would initiate a grazing-permittee advisory group to coordinate grazing with military activities and allow local ranchers to advise on permitting conditions such as the dates of training.

Implementation of Alternative 1 could have a long-term beneficial impact to grazers successful in the competitive bid process. I could have a long-term major adverse impact on existing grazers due to potential loss of grazing land and reduction in property values; and a long-term minor impact on the community due to regional loss of ranchland.

MINING AND MINERAL RIGHTS

Under Alternative 1, management of mineral resources, including oil and gas, on public lands within the proposed LHTA withdrawal area would remain under the jurisdiction of the Secretary of the Interior and be administered by the BLM under existing mining and mineral leasing laws. The mine permit conditions for Graymont's existing operations are not anticipated to change as a result of the withdrawal action. However, all mineral rights within the LHTA, including those that fall under Graymont's permitted Plan of Operations and Operating Permit #00105, determined to negatively impact MTARNG training objectives could be acquired by the Army Corps of Engineers on behalf of the Army. Acquisition of mineral rights and mining claims would take the form of purchase, condemnation, donation, or exchange.

No new mining claims would be allowed in the LHTA. No new mine Operating Permits, Expansions, or Amendments to existing Operating Permits for mine expansion would be allowed within the LHTA in areas where mining activities might conflict with the ability of the MTARNG to accomplish its mission. The elimination or a reduction of mining activities would have a cascading negative effect on regional employment, tax rolls, and the socio-economic environment in Broadwater County and the region of influence.

Should the MTARNG determine all mining in the area may adversely impact accomplishment of their mission, they may acquire the patented mining claims and the mineral rights associated with unpatented claims thereby eliminating mining activities. This in turn would also eliminate the need for BLM management of this activity in the LHTA. BLM would then forego revenue generated for its general fund derived from unpatented mining claim holders in the form of a \$125 annual maintenance fee. Graymont owns approximately 368 of unpatented mining and 4 mill site claims.

Graymont reports that the Indian Creek facility currently mines approximately 1 million tons per year to produce approximately 410,000 tons of limestone products. They also estimate they have reserves of 30 million tons of mineable limestone ore reserves within their existing permit boundary and 55 million tons of limestone resources (not upgraded to a mineable reserve at this time) to the south of their current permit boundary (Kirk 2007). Should Graymont maintain its current mining production rate of 1 million tons per year within the existing permit boundary, by year 2014 it will have recovered approximately 9 million tons of the estimated 30 million tons of mineable reserves which may be available. Mineral reserves on Graymont's Indian Creek claims within the permit boundary are estimated to be worth between \$9 and \$11 per ton for limestone in 2006 dollars (Kirk 2006).

In the absence of all mining, the State of Montana Resource Indemnity Trust Tax payment would also experience a decrease in revenues. Graymont paid approximately \$14,918 to the Trust Tax fund in 2004 (Brown 2005). Upon a decision to acquire mining claims by the MTARNG, it is foreseeable that some reclamation activity would be required on behalf of Graymont to preserve and recover its reclamation bond in the amount of \$3,675,530 under the control of Montana Department of Environmental Quality (as of June 2006).

Graymont paid Broadwater County \$195,808 in 2004 for property taxes as well as \$47,490 in annual net proceeds. If mining were to cease on the LHTA, Broadwater County would lose the income from net proceeds within a year, and the property tax as well, if Graymont were to sell its property. The property tax rate would certainly go down if the property were listed as vacant instead of industrial.

If the MTARNG determines that mining activity interferes with its military mission and acquires the existing mining claims, Graymont would likely lay-off or relocate as many as 27 Graymont employees at the Indian Creek mine, effectively eliminating an estimated annual payroll of \$1,357,013 in 2005, averaging \$50,260 base salary per Graymont employee, which is significantly higher than the average earnings per job of \$21,519 in Broadwater County in 2000 (Lyncoln 2006). Graymont also contracts for the services of 11 workers from Quarry Services; the contract employees' salaries are included as a part of the overall Montana Vendor Purchases estimate paid by Graymont of \$5,183,396 in 2005. Current direct and contract employment at the Indian Creek facility comprises approximately 42 percent of the 2000 mining employment in Broadwater County (Lyncoln 2006). Additional effects on federal and state income tax revenues would occur with a decline in personal income tax paid by displaced workers.

If Graymont was no longer allowed to mine at the LHTA, in addition to the 27 Graymont employees and 11 Quarry Services workers who would lose their jobs, 54 indirect non-basic workers (retail employees, teachers, and service workers) in the region of influence would potentially lose their jobs with lost wages ranging from \$1,065,852 and \$1,491,210 depending on the county in which they found employment. Twenty-five of the 27 Graymont employees live in Broadwater County, and it is reasonable to assume that many of the contract workers also live in the county. They and their families may have to leave the county if their jobs are lost, or they would have to live on less than half of what they are currently earning if they found new employment at the county-wide average earnings per job rate of \$21,519 (Lyncoln 2006). In addition, spending by Graymont on Montana vendors, including 11

contracted Quarry Services workers, and other investments Graymont makes in the community would cease in the absence of all mining, a potential loss of \$5,183,396 to the Broadwater County, the region of influence, and Montana economies.

Implementation of Alternative 1 could have a long-term major adverse impact on the economic viability of the Graymont Mine and local employment.

PAYMENTS IN LIEU OF TAXES

In addition to a potential property tax loss (\$195,808) and net proceeds tax loss (\$47,490) which Graymont paid to Broadwater County in 2004, the BLM currently reimburses Broadwater County approximately \$26,000 per year as payment in lieu of taxes (PILT) for LHTA federal land management by the BLM. Under Alternative 1, this payment would stop because the land would be managed by the military, which does not participate in the program. Monies lost from both the Graymont tax payments and the BLM payments in lieu of taxes could be replaced with property tax increases (Gillespie 2004). This would result in a major long-term adverse impact to the County.

ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

No environmental justice populations exist in the region of influence. Implementation of Alternative 1 would not place disproportionate adverse environmental, economic, social, or health effects on minority or low-income populations.

While children are frequently present at most MTARNG installations, they tend to be present at the LHTA only as non-military users. Implementation of Alternative 1 would not place disproportionate adverse environmental health and safety risk on children.

4.9.2 EFFECTS OF ALTERNATIVE 2

Implementation of Alternative 2 would likely result in a long-term minor adverse impact to Broadwater County through a reduction of payment in lieu of taxes. The shared management alternative would have a number of direct and indirect effects resulting from the BLM and the MTARNG sharing the administrative responsibilities of the federal land within the LHTA with the following exceptions:

- Mining and mineral resources which are required by law to be maintained under the administration of the BLM
- Grazing and range management (BLM),
- Public and agency access (MTARNG),
- Military facilities and exercises (MTARNG), and
- Unexploded ordnance clearance (MTARNG).

Under Alternative 2, the military mission and existing non-military land uses would remain the same. Selection of Alternative 2 affect local and federal government revenue associated with BLM land. A description of socioeconomic environmental justice and protection of children impacts associated with this alternative is presented below.

GRAZING

Under Alternative 2 the BLM would continue to manage grazing allotments within the LHTA boundary in accordance with *Federal Land Policy and Management Act*, the Butte Field Office *Resource Management Plan* requirements, and as recommended by stakeholders. All existing grazing allotments in the LHTA (in both closure and nonclosure areas) would remain as delineated. The continuation of the existing grazing management program would have a stabilizing effect, being similar to the existing condition, on the local agricultural community, tax rolls, and land values and the socioeconomic setting in the region of influence.

With allotments management retained by the BLM under this scenario, BLM would also retain current revenue generated by seven grazing permittees whose allotments remain within the LHTA boundary.

The MTARNG would also provide unexploded ordnance safety briefings on the LHTA to graze lease permittees upon request. Because grazing would be managed by the BLM, a grazing advisory group unique to the LHTA area would not be established.

MINING AND MINERAL RIGHTS

Selection of Alternative 2 would allow existing mining operating permits to remain in effect, as recommended by stakeholders. BLM would retain management of the mining activities within the LHTA, including joint oversight with the Montana Department of Environmental Quality (MDEQ) of existing and expanded mine operations and the administration of existing mine claims under the *General Mining Law (1872)* and *Federal Land Policy and Management Act*. Future mine or mine expansion permits would continue to be issued by the Montana Department of Environmental Quality and BLM following review and approval for safe access from the MTARNG.

Implementation of Alternative 2 (retaining mining operations under existing permits) would have a stabilizing effect on the local economy during the years Graymont continued to mine. Mining employment would remain at its current level, providing income and benefits for approximately 27 direct, 11 contract, and 54 indirect employees in Broadwater County and the region of influence.

BLM would maintain revenue generated for its general fund derived from mining claim maintenance fees. The State of Montana Resource Indemnity Trust Tax payment would maintain its revenue stream from Graymont and Broadwater County would maintain annual tax revenues.

Under Alternative 2, mining claims that may adversely impact the military mission would be limited to those claims shown in red on Figures 2-5a and b. The MTARNG could decline to approve permits seeking to allow new mining operations or expansion of existing operations on these claims. New proposals for mining activities on mining claims found not to be in conflict with future missions of the MTARNG would require approval of BLM and Montana Department of Environmental Quality.

At the conclusion of mining within the existing permit boundary area, and in the absence of additional approved mining activities, it is foreseeable that reclamation activity would be required of Graymont to recover its reclamation bond in the amount of \$3,675,530 (as of June 2006) under the control of Montana Department of Environmental Quality.

Implementation of Alternative 2 would have no effect on mining activities when compared to existing conditions.

PAYMENTS IN LIEU OF TAXES

Under Alternative 2, the BLM would provide Broadwater County with approximately 60 percent (about \$15,600) of payments in lieu of taxes.

ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

Impacts would be the same as those described for Alternative 1.

4.9.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Implementation of the preferred alternative would likely result in a long-term minor adverse impact to County revenues. Alternative 3 is similar to Alternative 1 in that all of the administrative responsibilities on the LHTA would shift from BLM to the MTARNG except for mining and mineral rights. Alternative 3 is different from Alternative 1 in that the MTARNG would adopt resource use management practices similar to BLM *Federal Land Policy and Management Act* regulations. Impacts associated with this alternative are presented below.

GRAZING

Grazing allotments management within the LHTA boundary would be transferred from the BLM to the MTARNG who would then manage the allotments in accordance with existing BLM management practices and in compliance with the *Federal Land Policy and Management Act*. All existing grazing allotments remaining inside the withdrawal area would remain as currently delineated. The MTARNG would continue to allow grazing until the end of the individual permit expiration date. The MTARNG would then reissue permits under the same terms and conditions and current permittees would be able to renew for a 20-year term. Current BLM practice requires permit renewal every 10 years. The continuation of grazing permit opportunities would have a stabilizing effect, being similar to the existing condition, on the local agricultural community, land values, and the socioeconomic setting in the region of influence.

With allotments management by the MTARNG under this scenario, BLM would forego current revenue generated by grazing permittees in the LHTA. The MTARNG would also require grazing permittees to attend regularly scheduled unexploded ordnance safety briefings. The MTARNG would initiate a grazing-permittee advisory group to coordinate land use with military activities and to advise the MTARNG on rangeland health.

Implementation of the preferred alternative would have a minor beneficial impact on grazers due to the extended permit period and creation of a grazing advisory group.

MINING AND MINERAL RIGHTS

Impacts on mining and mineral rights would be the same as those described under Alternative 2. Implementation of the preferred alternative would have no effect on mining activities when compared to existing conditions.

PAYMENTS IN LIEU OF TAXES

Under Alternative 3, the BLM would provide Broadwater County with no payments in lieu of taxes, reducing revenue to the County by approximately \$26,000 per year resulting in a minor long-term adverse impact to County revenue.

ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

Impacts would be the same as those described for Alternative 1.

4.9.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

The no action alternative would result in continued use and management of the LHTA as it is currently until the MTARNG ended its use of the LHTA sometime on or before March 26, 2014. While the LHTA remained in use by the MTARNG, the BLM would continue to base allowable land use decisions on safety determinations issued by the MTARNG. These, in turn, would continue to be based on determinations made by the Department of Defense Explosives Safety Board. No change in social or economic resources are expected to result while the right-of-way grant remains in place.

The no action alternative would have a number of direct and indirect effects resulting from the termination of military activities.

Implementation of Alternative 4 would result in long-term major adverse impacts to military training, battle readiness, and the MTARNG annual budget. It would have a long-term minor adverse impact on the local economy. It would also likely result in significant long-term adverse impacts to individual and local government revenues resulting from mining and MTARNG activities. Minor long-term beneficial impacts to natural resources would likely occur. After the MTARNG no longer used or managed the LHTA, BLM decisions regarding land use would be based on safety determinations from another agency, likely whichever agency would be responsible for reclamation of the closure area. Some possibilities include a department within the State of Montana, the U.S. Army Corps of Engineers, or the U.S. Environmental Protection Agency. Because the agency responsible for recommending safe use of the closure area is unknown, allowable land use in the closure area after the Guard ceases use of the LHTA is unknown. Because safety precautions in the closure area may increase under the direction of another agency, the use of the closure area, and potentially the entire LHTA, for any human activity may be prohibited while the risk of UXO remains.

For the purposes of this analysis, the most likely scenario is assumed after termination of military use, all uses would be prohibited in the closure area until UXO risk is acceptable. Selection of this alternative would affect land use and access; including mining, grazing, land and mineral ownership and revenue streams associated with each of these uses. In addition, employment sensitive to these land uses would also be influenced and changed. Each of the impacts associated with this alternative are presented below.

MILITARY LAND USE

The no action alternative would result in major long-term adverse impacts to MTARNG training, battle readiness, and budget. The MTARNG would lose its ability to train and conduct exercises in the LHTA beyond March 26, 2014, as necessary to the accomplishment of its overall mission, and would need to secure another location to continue to train and equip soldiers to meet readiness standards and conduct wartime and peacetime missions. No alternative location in the State of Montana is available that is suitable for the MTARNG to conduct training activities described in Section 3.1.2.

The no action alternative would require that the MTARNG (1) cease its training function or modify the courses offered to those that are consistent with the training facilities at Fort Harrison; or (2) find an alternative location suitable to provide training to meet the requirements of its mission. Because a location with the same capabilities as LHTA cannot be secured in the proximity to the staging area at Fort Harrison, additional costs would be incurred on the part of the MTARNG to facilitate access to a more remote site.

Impacts to Fort Harrison as a Training Center

The Fort Harrison training function is currently classified as "Maneuver Training Area – Light" because of the number of beds, the number of support facilities, and the number of people who receive training each year (Table 4-1). It is unlikely that the MTARNG would cease its training function altogether because a portion of the current training already takes place at Fort Harrison facilities. However, without the LHTA, training that involves guns over .50 caliber would have to cease in Montana because gunnery that large is not allowed at any other Montana training area. The MTARNG Training Center Manager estimates that if the LHTA was not available for MTARNG training, the Fort Harrison Training Center class would be reduced from "Maneuver Training Area-Light" to a "Collective Training Center" because of the loss of acreage. This reduction in adequate training facilities would result in a reduction in trainees so the Fort Harrison Training Center would likely be down graded further to an "Intermediate Training Center" due to a reduction in the number of trainees to under 70,000 (Table 4-1). It is possible that the entire training function of Fort Harrison would be eliminated if the LHTA were no longer available. Impacts to the MTARNG and associated functions are described below for two scenarios: (1) cessation of the MTARNG Training Center and (2) use of an alternative training area.

**TABLE 4-1
NATIONAL GUARD TRAINING CENTER CLASSIFICATION CRITERIA**

Category	Maneuver Land (number of acres)	Weapons Ranges (no. of ranges)	Billeting Capacity (number of beds)	Support Facilities (number of facilities)	DoD Utilization (number of trainees)
Local Training Area	<75	0	<100	0	<1,500
Local Training Center	75-199	0	100-149	1	1,500 - 14,999
Intermediate Training Center	200-749	1	150-300	2-3	15,000 - 69,999
Collective Training Center	750-9,999	2-3	301-550	4-5	70,000 - 124,999
Maneuver Training Center –Light	10,000-21,499	4-6	551-1,500	6-20	125,000-274,999
Maneuver Training Center –Heavy	>21,499	>6	>1,500	>20	>275,000

Source: Cook 2004b

Note: < = Less than

> = Greater than

Alternative Training Scenario 1: Cease Training Function

Funding. The MTARNG estimates that loss of the LHTA would result in a loss of approximately 25 percent to 33 percent of its 2006 funding. The MTARNG annual funding program is currently just below \$56 million, indicating a loss of between \$14 million and \$18 million annually. Approximately \$542,000 of the funding is earmarked for Montana training areas; approximately 75 percent of that money (\$406,500) is tied to support the ranges and training areas at the LHTA.

Personnel Loss: Besides the loss of an important training facility, the reclassification would also lead to a decrease in the employment authorization. The MTARNG has identified a possible impact in terms of personnel, in a range of an estimated minimum of 25 percent to an estimated maximum of 33 percent (Swanson 2006), with the exception of two employment areas: the Training Center and the various surface maintenance shops which work on vehicles where the losses will be much higher.

Assuming 2,500 traditional MTARNG members, between 625 and 825 members would likely be lost throughout the state with the loss of associated payroll and financial impact on the families and local economy. It is impossible to predict the precise employment loss in the state. The MTARNG assumes that the Infantry Battalion and Troop E would be eliminated if the no action alternative is selected because appropriate and necessary training areas and ranges will be unavailable to support training and operations (Swanson 2006). Communities hosting members of those units and/or maintenance shops would be directly impacted if the no action alternative were selected. Table 4-2 reports the estimated range of total full-time jobs potentially lost.

TABLE 4-2 ESTIMATED LOSSES OF FULL-TIME MTARNG JOBS			
Job Classification	Existing (April 2006) Employment	Best case job loss (25%)	Worst case job loss (33%),
Active Guard Reserve	220	55	73
Federal Technicians	294	74	97
Temporary Hire Employees	44	11	15
Total Job Loss	558	140	185

Source: Swanson 2006

Montana personnel loss resulting from the no action alternative would include civilians, Guard Reserves, and state employees. Currently the MTARNG Training Center has been allocated 26 technician positions, 5 active Guard Reserve positions, and 3 state employees. If reclassified to a "Collective Training Center," positions allocated would be decreased to 16 technicians and 3 active Guard Reservists. All three state positions would be eliminated. According to Major Troy Frost, MTARNG Human Resources Officer, the average annual base wage for each technician is \$44,020; \$50,220 for each active Guard Reservist; and \$47,000 for each state employee (Frost 2005). The direct economic impact of the change in status of the Training Center would be the loss of a minimum of \$681,640 in wages. Using the employment multiplier of 2, another 30 indirect non-basic employees would lose their jobs, equating to a range of average earnings lost of between \$592,140 and \$828,450 in the region of influence but predominately Lewis and Clark and Jefferson counties.

The MTARNG maintains a combination of shops, including seven maintenance shops located throughout the state; the combined support maintenance shop, where higher levels of maintenance take place; and the unit training and equipment shop, where training and maintenance support activities directly tied to the training areas, is conducted. The work in these shops primarily supports maintenance of M1 Abrams Tanks, Bradley Fighting Vehicles, and similar equipment and weapons systems. The MTARNG estimates that between 20 and 60 jobs will be lost if the no action alternative is selected creating a direct loss of between \$1,760,000 and \$2,640,000 in salaries throughout the state (Swanson 2006). This represents an expected best case/worst case range of 50 to 75 percent of the full-time force in those shops and could possibly lead to the loss of another 80 to 120 jobs throughout the state.

The MTARNG spent over \$20 million purchasing goods and services in 2003. Businesses in Lewis and Clark County benefit directly from MTARNG expenditures for food supplies and other requirements to support weekend Guard training exercises. Over \$15,260,000 was spent in Helena in 2003 (MTARNG 2004a).

It is possible that the effectiveness of training troops for assignments in fighting areas with the same terrain as that of the LHTA would be effected under the no action alternative. The LHTA provides training for organizations such as the Special Forces, because it mimics the unique features and conditions found in areas such as Afghanistan and allows the use of training with heavy artillery similar to that found in the field. Military experts believe that such training reduces the casualty rate among units who have trained at the LHTA. Scenario 1 would result in major long-term adverse impacts to the MTARNG budget, personnel, and battle readiness. It would result in minor long-term adverse impacts to local governments and the local economy.

Alternative Training Scenario 2: Identify Alternate Training Locations

Another option considered by the MTARNG is to find another training area location suitable to meet the requirements of its mission (MTARNG 2002a). Because no other comparable site is available in proximity to the staging area at Fort Harrison, the MTARNG would have to train outside Montana. The MTARNG would incur high transport costs of personnel and equipment, and there is no guarantee that another site could be found which would be able to accommodate the number of personnel in a reasonable time frame. Five potential alternative training locations have been identified: Boise, Idaho; Camp Guernsey, Wyoming; Hill Air Force Base, Utah; Knoxville, Tennessee; and Fort Polk, Louisiana.

The current assigned total of the heavy weapons systems that would require heavy-haul transport is 7 M88 Recovery Vehicles, 9 M1 Abrams Main Battle Tanks, and 57 Bradley Fighting Vehicles. The annual projected costs for transporting the various equipment and personnel packages, by unit, to the appropriate training area is detailed in Table 4-3.

The National Guard Bureau believes that there is no substitute for extensive time in the field, working and training as a unit, from the lowest level of team training as a squad or vehicle crew, up to battalion maneuver and gunnery operations (Swanson 2006). At the time that the LHTA was established and

during the history of its use, the perception and anticipation of that use for Montana's Guard to stay mission-proficient, was significantly different than the demand now placed on the soldiers. The rate of activations/mobilizations currently experienced by the MTARNG has exceeded all historical training averages, expectations and scenarios further enhancing the importance of the LHTA for training.

In addition to preparing Montana soldiers for combat, the effectiveness of training troops for assignments in fighting areas with the same terrain as that of the LHTA would be effected under the no action alternative. The LHTA provides training for organizations such as the Special Forces which mimics the unique features and conditions found in areas such as Afghanistan and allows the use of training with heavy artillery similar to that found in the field. Military experts believe that such training reduces the casualty rate among units who have trained at the LHTA.

In addition, MTARNG members would spend more time traveling to the training facility than they do when using the LHTA. MTARNG members and their families would be affected by longer training periods required because of traveling out of state, in that they would spend more time away from families, employment, and community commitments. Scenario 2 would result in major long-term adverse impacts to the MTARNG budget and personnel. It would result in minor long-term adverse impacts to local government and the local economy.

**TABLE 4-3
TRANSPORTATION COSTS TO ALTERNATIVE TRAINING LOCATIONS**

Unit	Alternative Training Location	Wheeled Vehicle Expense (2006 \$)	Track or Pacing Item Expense	Soldier Passenger Expense	Pay & Allowances	Total Expense
1 st 163 rd Infantry Battalion	Gowen Field Boise, ID	\$343,242	\$348,283	\$368,376	\$1,266,313	\$2,336,214
116 th Brigade Support Battalion	Gowen Field Boise, ID	\$156,500	N/A	\$125,237	\$430,510	\$712,247
1-190 th Field Artillery Battalion	Camp Guernsey Guernsey, WY	\$101,681	\$11,031	\$62,497	\$192,882	\$368,091
1-189 Aviation Battalion	Hill AFB, UT	\$9,891	\$200,320	N/A	\$281,018	\$491,229
631 st Chemical Company	Knoxville, TN	\$204,852	N/A	\$85,136	0	\$289,988
443 rd Quartermaster Company	Fort Polk, LA	\$374,098	63,086	\$155,248	0	\$592,432
495 th Transportation Battalion	Gowen Field Boise, ID	\$3,130	N/A	\$2,204	0	\$ 5,334
639 th Quartermaster Company	Gowen Field Boise, ID	\$7,825	N/A	\$2,755	0	\$ 10,580
Combined Engineer Companies	Gowen Field Boise, ID	\$21,910	N/A	\$7,714	0	\$ 29,624
134 th Military Police Detachment	Gowen Field Boise, ID	\$56,340	N/A	\$39,672	0	\$ 96,012
All Unit Totals		\$1,279,469	\$622,720	\$848,839	\$2,170,723	\$4,921,751

Note: N/A = not applicable

Source: Swanson 2006

UNEXPLODED ORDNANCE (UXO) REMEDIATION COSTS

Under the no action alternative, the responsibility for UXO investigation and remediation would transfer from the MTARNG to another government agency such as the Army Corps of Engineers at the close of the current withdrawal period. It is not known what priority the LHTA cleanup effort would have on a national priority list, nor how much money would be available for continued clearance and remediation. This change in clean-up responsibility would potentially result in a loss of over one million dollars a year to Montana contractors based on past budget allocations.

Approximately 1,500 acres of land within the LHTA still contains UXO contamination which requires subsurface reclamation. Alternative 4 would likely require fencing of all UXO-contaminated areas for safety purposes, and may prevent any public access for recreation, grazing or mining in the current UXO contaminated areas until the areas have been cleared and declared safe for the various uses. Estimated costs of fencing for public safety are summarized below:

- The High Explosive Impact Area, currently scoped as requiring 6 miles of fencing to enclose, at a contractor's estimate of \$14,000 per mile, totaling \$84,000.
- The current contaminated area that is just ahead of the Graymont mining operation may require fencing for public safety at an estimated cost of \$109,200 for 7.8 miles.

- The newly filed Graymont dolomite mining claims area totals 472 acres, with a contamination probability still being determined. This area may also require fencing until cleared, at an estimated cost of \$504,000 for 3.6 miles of fencing (Swanson 2006).

FACILITY DEMOLITION AND RECLAMATION COSTS

The selection of the no action alternative would result in the termination of the current right-of-way grant on or before March 26, 2014. This would essentially be the permanent end of all military training at Limestone Hills. Under those circumstances, it is to be assumed that all training assets currently in place would be removed and the sites reclaimed so the land would be restored to its initial or natural condition. The costs for the following facility removal and reclamation are estimated in the table below:

TABLE 4-4 FACILITY AND RECLAMATION COSTS		
Facility/Installation	Cost/Loss of Investment (2006 dollars)	Cost of Demolition/ Removal/ Reclamation (2013 dollars)*
Tank and Bradley Gunnery Range	\$3.5 million	\$1,450,000
Scout Course Facilities	\$1.5 million	\$72,000
Training Support Facility and cantonment area	\$2.5 million	\$1,700,000
Training assets supporting ranges	\$4.0 million	\$4,840,000
Roads	\$2.5million	\$3,700,000

*Factored using an inflation rate of 3 percent per year

Source: Swanson 2006

GRAZING

Impacts on grazing while the MTARNG continued to use the LHTA would be similar to those described under Alternative 2. Impacts on grazing after use of the LHTA for military use ceased would depend on allowable use of the closure area. These could range from termination of allotments that fall within the closure area to continued use of all current allotments. The BLM and grazers would have more flexibility than under current conditions to determine grazing rotation schedules due to the elimination of conflicts with military activities. Impacts to grazing from Alternative 2 range from minor beneficial due to increased flexibility to move livestock without conflict with military activities to major adverse due to potential prohibition of grazing for most of the Limestone Hills allotment and part of the Dowdy Ditch and Section 33 allotments.

MINING AND MINERAL RIGHTS

While the MTARNG continues to use the LHTA, impacts on mining and mineral rights would be similar to those described under Alternatives 2 and 3. Impacts on mining after use of the LHTA for military training ceased would depend on allowable use of the closure area. Allowable use could range from termination of all mining activities to continued mining within the mine permit area and exploration

beyond the mine permit area. If mining exploration and extraction activities were allowed to continue, mining activities would no longer be secondary to military use. Because the allowable use of the LHTA closure area after the MTARNG right-of-way is no longer in effect is unknown, impacts can only be described conditionally. Impacts to mining from Alternative 4 could range from long-term major adverse due to termination of mining activities in the closure area to increased flexibility of mining operations with respect to conflicts with military use.

PAYMENTS IN LIEU OF TAXES

The BLM currently reimburses Broadwater County approximately \$26,000 per year as payment in lieu of taxes for LHTA federal land management by the BLM. Under the no action alternative, this payment would continue to be paid to Broadwater County.

ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

Impacts would be the same as those described for Alternative 1.

4.10 HAZARDOUS MATERIALS AND ITEMS OF SPECIAL CONCERN

Hazardous and solid waste is considered by BLM to be a Critical Element of the Human Environment. Management of hazardous materials, including UXO, in the LHTA would continue as it is under existing conditions. No impacts are anticipated for all three action alternatives. Under Alternative 4, impacts to UXO management would be major and adverse if the responsible agency were unable to continue the similar cleanup activities upon termination of the right-of-way grant. Impacts to management of hazardous and special materials for each alternative are described in this section.

4.10.1 EFFECTS OF ALTERNATIVE 1

No impacts to management of hazardous materials and items of special concern are expected to result from implementation of Alternative 1.

HAZARDOUS MATERIALS USE AND DISPOSAL PROCEDURES

Under Alternative 1, hazardous materials use and disposal procedures, hazardous waste and hazardous materials would be managed in accordance with federal and state law. Only the MTARNG should generate the waste or handle the hazardous material and the MTARNG would be the responsible party for managing it. The 500-gallon petroleum tank would continue to be used and an additional tank may be needed, if military use increased significantly. Pesticides would continue to be stored off the LHTA site.

ORDNANCE AND EXPLOSIVES ACTIVITIES

The proposed military use and thus ordnance and explosive activities of the LHTA under Alternative 1 would continue as described in section 3.1.

4.10.2 EFFECTS OF ALTERNATIVE 2

Alternative 2 would not be expected to result in impacts to management of hazardous materials and items of special concern.

HAZARDOUS MATERIALS USE AND DISPOSAL PROCEDURES

Under Alternative 2, hazardous materials use and disposal procedures, hazardous waste and hazardous materials would be managed in accordance with federal and state law. Only the MTARNG should generate the waste or handle the hazardous material and the MTARNG would be the responsible party for managing it. The hazardous and other miscellaneous waste classification would not change. The

500 gallon petroleum tank would continue to be used. Pesticides would continue to be stored off the LHTA site.

ORDNANCE AND EXPLOSIVES ACTIVITIES

The proposed military use and thus ordnance and explosive activities of the LHTA under Alternative 2 would continue as described in Section 3.1.

4.10.3 EFFECTS OF ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

No impacts to management of hazardous materials and items of special concern would likely result from implementation of the preferred alternative.

HAZARDOUS MATERIALS USE AND DISPOSAL PROCEDURES

Under Alternative 3, hazardous materials use and disposal procedures, hazardous waste and hazardous materials would be managed in accordance with federal and state law. Only the MTARNG would be expected to generate the waste or handle the hazardous material and the MTARNG would be the responsible party for managing it. The hazardous and other Miscellaneous Waste Classification would not change. The 500-gallon petroleum tank would continue to be used. Pesticides would continue to be stored off the LHTA site.

ORDNANCE AND EXPLOSIVES ACTIVITIES

The proposed military use and thus ordnance and explosive activities of the LHTA under Alternative 3 would continue as described in Section 3.1.

4.10.4 EFFECTS OF ALTERNATIVE 4 (NO ACTION)

Implementation of Alternative 4 would have no impact on management of non-explosive hazardous materials at the LHTA; however it could have a range of impacts on UXO-clearance activities depending on the national concern. Potential impacts to UXO clearance range from short-term minor adverse to long-term major adverse.

HAZARDOUS MATERIALS USE AND DISPOSAL PROCEDURES

Under Alternative 4, hazardous materials use and disposal procedures, hazardous waste and hazardous materials would be managed in accordance with federal and state law.

While the MTARNG continues to use the LHTA, only the MTARNG would generate the waste or handle the hazardous material and the MTARNG would be the responsible party for managing it. The

500-gallon petroleum tank would continue to be used. Pesticides would continue to be stored off the LHTA site.

If the right-of-way were terminated, the MTARNG would discontinue using hazardous materials and generating any hazardous waste. All hazardous materials and hazardous waste would be removed from LHTA and stored or disposed in accordance with federal and state law. It is anticipated that the BLM would not use or store hazardous materials or hazardous waste before or after the permit expires.

ORDNANCE AND EXPLOSIVES ACTIVITIES – GENERAL

Prior to expiration of the special permit, the proposed military use and thus ordnance and explosive activities of the closure area at LHTA under Alternative 4 would be the same as described in Section 3.10.1. At the end of the lease period, all ranges would be abandoned.

It is anticipated that UXO clearance activities in the high priority clearance area (Figure 1-2) conducted by the MTARNG would be completed by 2014. However, because of insecure funding and the potential for termination of military use before 2014, it is possible that this high priority UXO clearance area would still have UXO contamination after the MTARNG ceased use of the LHTA.

Before terminating use of the LHTA, the MTARNG would recommend the LHTA to the Army as a "Military Munitions Response Program Site." At that point, the LHTA would likely receive a ranking using a national risk prioritization model. The executive agent for the cleanup would likely be the Army Corps of Engineers, the State of Montana, or the U.S. Environmental Protection Agency. Updated versions of the Department of Defense and EPA *Interim Final Management Principles for Implementing Response Actions at Closed, Transferring, and Transferred Ranges* (DoD and EPA 2000) and EPA's own draft policy for addressing ordnance and explosives (EPA 2003) would provide guiding principles to the implementation of the range abandonment. Because the Department of Defense typically works with EPA, states, and Tribal organizations and other stakeholders to consider the appropriate nature of range regulation at closed ranges, it is expected that UXO management at the LHTA would comply with the management principles cited above and input from affected stakeholders.

Implementation of the no action alternative would likely have a minor long-term adverse impact on UXO cleanup due to the change in remediation authority and subsequent slow down of UXO removal activities.

4.11 MITIGATION MEASURES

Mitigation measures designed to reduce environmental effects of implementing the preferred alternative or other alternatives are described in this section. Most of the mitigation measures listed in this section can be reasonably accomplished and have the commitment of the responsible agency (MTARNG) to be adequately funded and implemented within a specified time frame. Mitigation measures that require an additional funding commitment on the part of the Department of the Army are noted as such. Mitigation measures will be enforceable only if they are adopted as part of the decision.

Measures described in this section would mitigate an action using one or more of the following approaches:

- *Avoidance* - avoids effects altogether by not performing certain activities or by restricting where they may be performed.
- *Limitation of action*- limits the degree or magnitude of an activity and, hence, its effects.
- *Restoration* - restores or enhances existing environmental conditions.
- *Protection and maintenance* - changes the design of the action to include engineered systems or management actions that preclude the emission of pollutants.
- *Replacement/Compensation* - replaces or otherwise compensate for resources destroyed by the action.

All anticipated significant adverse impacts from the Proposed Action (Alternative 1) were addressed in the development of Alternative 2 and the Preferred Alternative (Alternative 3). After impacts analysis of the action alternatives, additional measures were developed to mitigate minor impacts resulting from implementation of Alternatives 2 and 3, and are presented in this section.

MITIGATION MEASURES FOR IMPACTS FROM IMPLEMENTATION OF ALTERNATIVES 2 AND 3

Mitigation for Loss of Recreational Land.

Under Alternatives 2 and 3, the status of most of the closure area for recreational use would change from "temporary" to permanent closure throughout the duration of the withdrawal and subsequent UXO clean up. This change in status is considered an adverse long-term impact to recreational land use in the LHTA. This impact affects land use and social resources. To mitigate the loss of land available to the public for recreation, the MTARNG proposes to assist the BLM with the acquisition of similar land. Acquisition criteria would be in accordance with the Butte Field Office Resource Management Plan and is summarized in Appendix L. Based on the cost of recent BLM acquisitions of similar property in Broadwater County, Montana, implementation of this mitigation measure would require an investment of an estimated \$1,050 per acre at a total cost, if 8,000 acres were purchase, of \$8.4 million.

This purchase would effectively mitigate the long term minor adverse impact of the change in closure status but would be accomplished only if adequate funds were made available.

Mitigation for Loss of Access to Water Right

Under Alternatives 2 and 3, one or more private landowners may be denied access to a water right for a surface water or groundwater source. In the event that the Department of the Army acquires private land, this impact would be mitigated by:

- Developing an easement agreement between the landowner and the Department of the Army that would allow the water right holder to access the point of diversion and continue to maintain use of the water right, or
- The water right holder could transfer the water right to the Department of the Army as part of the purchase agreement.

This purchase would effectively mitigate the long term minor adverse impact of the loss of access to a water right point of diversion.

Mitigation for Loss of County Revenue

Loss of county revenue, of approximately \$26,000 per year, from the termination of annual payments in lieu of taxes from the BLM to Broadwater County would be mitigated by means of a lump sum payment to Broadwater County by the MTARNG. Broadwater County has indicated that a payment of \$1,000,000 would adequately mitigate the loss of revenue from implementation of Alternative 3 throughout the tenure of the withdrawal (Appendix G). Loss of County revenue from implementation of Alternative 2 (termination of about 40 percent of annual payments in lieu of taxes) would be mitigated with a lump sum payment from the MTARNG to Broadwater County of \$400,000.

This payment would effectively mitigate the long term minor adverse impact of the loss of payments in lieu of taxes to Broadwater County, but would be accomplished only if adequate funds were made available.

4.12 CUMULATIVE EFFECTS

Cumulative effects are the impacts on the environment that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or entity (federal or nonfederal) or person undertakes such other actions (40 CFR2832.1508.7). Analysis of cumulative environmental effects of a proposed action and other actions is required not only at the project site, but also in the region, recognizing that effects on recreational use, traffic congestion, air quality, noise, biological resources, socioeconomic conditions, utility system capacities, and other resources might often be manifested only at that level. This analysis also addresses cumulative effects of the portion of the no action alternative that takes place after the right-of-way is no longer in effect. Before the right-of-way is terminated, the no action alternative is the same as existing conditions.

The following geographical extent of the study area was selected for each resource evaluated in this EIS based on the extent and duration of anticipated effects caused by an action. The cumulative effects region of influence includes all areas in which planned or expected actions might affect one or more the study areas listed below.

<u>Resource</u>	<u>Study Area</u>
Land Use:	All land within 1/2-mile of the existing LHTA boundary
Air:	The existing LHTA boundary and airshed
Noise:	All land within 1/2-mile of the existing LHTA boundary
Geology:	The existing LHTA boundary
Water:	The existing LHTA boundary and receiving water
Vegetation:	The existing LHTA boundary
Wildlife:	The existing LHTA boundary (cumulative effects region of influence includes the Elkhorn Management Area [Figure 3-2])
Fishery:	The existing LHTA boundary
Cultural:	The existing LHTA boundary
Social and Economic:	Lewis and Clark, Jefferson and Broadwater Counties, Montana
Infrastructure:	The existing LHTA boundary

The MTARNG and BLM recognize that cumulative effects analysis is essential to effectively managing the consequences of human activities on the environment. Therefore, the purpose of this cumulative effects analysis is to ensure that agency decisions consider the full range of consequences of their action. This section identifies impacts and mitigations that assist the agencies in their effort to move toward sustainable development; that is, development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Reasonably foreseeable future actions in the vicinity of the project area are described in Section 2.8. Present and past actions in the vicinity of the LHTA include ongoing uses such as military training, grazing, hunting, general recreation, weed management, fire fuel mitigation, and road maintenance.

Construction and use of infrastructure such as linear feature rights-of-way and MTARNG facilities are also part of present and past actions that contribute to cumulative effects.

Resources that are likely to experience cumulative effects in addition to direct and indirect effects from the proposed action and alternatives are: geology (minerals), vegetation, wildlife, social, and economic resources. This section presents a discussion of cumulative impacts to each resource. Cumulative effects for each alternative are presented in tabular form by resource at the end of this section.

LAND USE

Past and present activities that impact land use on the LHTA analysis area includes the management of grazing allotments, recreation, mining, fire management, weed and pest control, right-of-ways, the acquisition of lands in the Iron Mask area, and military use of LHTA. Future activities that could affect land use on the LHTA would be increased development of private land near the LHTA boundary, and potential increased recreational use of land within and adjacent to the LHTA. Increased development of private land, increased recreational use and continued mining activities would increase land management intensity for activities such as weed control, fire fuel management. The possible increase of mining activities and recreational use could result in conflicts between military and nonmilitary uses of the LHTA.

Potential land use management and activities in the foreseeable future include the BLM's adoption of a new Resource Management Plan, and a mine expansion. The memorandum of understanding between Graymont, the BLM, and the MTARNG governing the present and future relationship between mining and military activities at the LHTA, includes provisions that address conflict between expansion of the Graymont Limestone Mine and the military mission (Appendix E). The adoption of a new Resource Management Plan by the BLM's Butte Field Office would be unlikely to affect military or non-military land use.

NOISE AND AIR QUALITY

Current noise sources include traffic, residential, wildlife, and LHTA activities. The military use of the LHTA associated with all the alternatives would be similar with respect to impacts to noise. Training activities are currently occurring at the LHTA, and no unit changes are anticipated. Ten additional receptors (residences) may be added as new residences in subdivisions located adjacent to the northeast corner of the LHTA. These receptors fall outside the 57 A-weighted day-night average sound level for military activities. Because past, present, and future noise environments would be similar and no receptors would be added within the noise influence area, no adverse cumulative noise effects from any alternative are anticipated. Because traffic levels would be similar to existing conditions, or potentially less under Alternative 1, no adverse cumulative effects to air quality are anticipated.

GEOLOGIC RESOURCES

Past and present mineral development activities have resulted in the extraction of about 18 million tons of limestone from the LHTA since 1981 when the mine went into production. Graymont's Indian Creek current mine permit area contains an estimated 30 million tons of unmined ore reserves and resources

on mining claims to the south of the existing permit area suggest that at least 55 million tons of limestone have the potential to be mined in the future if they can be upgraded to a mineable reserve. Graymont's proposed mine expansion would increase the likelihood that these resources would be mined.

In addition, Graymont believes that it has defined an area east of the north end of the current mine permit boundary area with a potential for the development of future mineable reserves of dolomite. They have proposed to mine this resource as part of their Operating and Reclamation Plan submitted to the DEQ and BLM for approval in 2006 (Resource Management Associates 2006). Mineable reserves of dolomite have not been delineated.

SOIL RESOURCES

Past and present soil disturbance has resulted from mineral development, grazing and trampling by livestock and other ungulates, and road construction. Most of the mine-disturbed areas occur on exposed bedrock, however, approximately 350 acres of the Limestone Hills allotment have resulted in soil disturbance. Soil disturbance from grazing has been primarily recorded in three pastures (Firing Range, Compound, and Marble Quarry) within the Limestone Hills allotment. Soil resources would be affected by the expansion of the Graymont Mine until reclamation took place.

WATER RESOURCES

Eighteen water wells have been installed within the LHTA and no perennial streams are present. Water quantity and quality have not been adversely affected by past and present activities in the LHTA, and no future action is anticipated that could adversely affect water resources. Planned reclamation of the lower three miles of Indian Creek would result in improved surface water quality adjacent to the proposed withdrawal area under Alternatives 1, 2, and 3; and within the LHTA under Alternative 4. Other planned activities are unlikely to have an effect on water resources when combined with past and present actions.

VEGETATION

Past and present vegetative removal at the LHTA has resulted from mineral development, grazing and trampling by livestock and other ungulates, road construction, and unexploded ordnance clearance activities. Most of the mine-disturbed areas have occurred on exposed bedrock; approximately 50 acres have resulted in the clearance of all vegetation. No future changes to grazing management in the revised BLM *Resource Management Plan* are anticipated that would adversely impact vegetation resources. Under Alternative 1, adverse cumulative effects to vegetation would be approximately 125 acres of removed vegetation and about 200 acres (one percent of grazing acreage in the LHTA) in damaged vegetation due to grazing practices. Under Alternatives 2 and 3, cumulative effects to vegetation would be approximately 600 acres of vegetation removed primarily by future mining activities. These activities when combined with the proposed mine expansion would cumulatively affect over 1,000 acres of vegetation. This would result in a short-term adverse impact until after mine reclamation was complete.

WILDLIFE AND WILDLIFE HABITAT

Past and present activities that potentially impact fish and wildlife and their habitats in the LHTA and the region include development and use of the LHTA for military training activities, development of the Elkhorn Cooperative Management Area, operation of the Graymont limestone mine, unexploded ordnance hazard risk, loss of habitat through construction and use of roads and military facilities, construction and presence of residential facilities, and Highway 12. Future activities that could impact wildlife and wildlife habitat in or near the LHTA include construction, and use of 10 additional residences located adjacent to the northeast corner of the LHTA and expansion of mining activities. Under Alternative 1, the loss of wildlife habitat to fencing the high explosive impact area, presence of unexploded ordnance hazard, and construction and use of roads and facilities would be mitigated by termination of all nonmilitary use of the LHTA. Under Alternatives 2 and 3, wildlife habitat would be adversely affected by the cumulative effects of existing and future activities listed above and expansion of mining activity.

CULTURAL

For over 60 years, the BLM has managed the lands within the withdrawal according to a multiple-use mandate. Livestock grazing, recreation, mining and military training have, with some adjustments, been accommodated, apparently with little cumulative or incremental adverse effect to historic properties. That being said, however, since the original large-block inventory of training area lands in 1979, there has been no systematic monitoring of the effect of such uses on previously recorded properties, and thus, there is no adequate benchmark for assessing cumulative effects.

Certainly, the range of activities that may adversely affect historic properties (ground disturbance associated with construction of new facilities, off-road vehicle use, grazing, fire suppression, mining, and ordnance delivery, as well as auditory intrusions associated with ordnance delivery and unexploded ordnance) will continue under both the proposed action and alternatives. (A prohibition against off-road vehicle use in both BLM and the MTARNG Training Site policy, has likely limited adverse effects to previously recorded properties whose National Register eligibility remains unresolved.) It is unlikely, however, that the rate of incremental or cumulative effect will increase under the proposed action or the alternatives.

SOCIAL

The LHTA and areas in the vicinity of the LHTA are currently used for recreation (primarily hunting, biking and recreational motorized vehicles), utilities, grazing, mining, private property holders, and military training. Past and present military activities at the LHTA have eliminated the opportunity to access the 8,110-acre closure area. Under Alternative 1, all non-military use of the LHTA could be terminated. This would have a cumulative effect of eliminating a total of 21,317 acres from public use for activities such as recreation, land ownership, grazing, utility location and mining. Under Alternatives 2 and 3, nonmilitary use of the LHTA would remain similar to existing conditions, except that the nonclosure area would receive additional military use for the qualifying training range. Loss of access to the 8,110-acre closure area for recreation would be mitigated by the transfer of ownership from private to federal (BLM) of property that meets BLM acquisition criteria described in Appendix L. The recent

acquisition of 5,565 acres of land in the Iron Mask area by BLM may have had a beneficial cumulative effect/social effect by providing additional lands available for recreational use in the immediate area of the LHTA.

ECONOMIC

Past and present activities that affect economic resources in the region include the use of the LHTA by the MTARNG for training purposed for the past 40 years, payments to Broadwater County in lieu of taxes by the BLM, economic benefits to the region resulting from the Graymont limestone mine, and the use of the LHTA for grazing. Future activities that could cumulatively impact economic resources are continued operation of the Graymont Limestone Mine in accordance with its current operating permit with or without an amendment authorizing expansion of existing mining operations. Under Alternative 1, the Graymont Limestone Mine would be unlikely to obtain permission to expand and could be required to terminate mining, so cumulative effects are the same as direct and indirect impacts. Under Alternative 2, the mine would be permitted to continue in accordance with its existing operating permit, loss of payments in lieu of taxes would be mitigated with a one-time payment in the amount stipulated by Broadwater County as adequate compensation, and contributions to the economic region of influence by the MTARNG would continue at the approximately the same rate. No adverse cumulative effects are anticipated under Alternatives 2 and 3.

INFRASTRUCTURE AND HAZARDOUS MATERIALS

Infrastructure, such as road, military and other facilities on the LHTA by BLM right-of-way, and fencing have not been adversely affected by past and present activities. Some activities that could occur in the foreseeable future that would affect infrastructure are: the potential addition of buildings and firing lanes in the non-closure area for a small arms qualification range, and increased use of the LHTA for both military and nonmilitary activities. Increased use could result in a need for changes in the frequency and type of road maintenance activities on the part of Broadwater County and the MTARNG.

The hazardous materials management program at the LHTA addresses primarily ordnance-related waste. Implementation of a small arms range in the nonclosure area would be expected to require additional hazardous materials management activities to address lead from spent bullets. The Department of Defense supports UXO cleanup activities at the LHTA through the National Guard Range and Training Land Program. Because this program does not typically support restoration of closed ranges, it is reasonably foreseeable that, in the event of termination of the right-of-way grant, UXO cleanup efforts would be reduced or temporarily stopped. This would adversely impact management of hazardous materials at the LHTA.

CUMULATIVE EFFECTS BY ALTERNATIVE

Tables 4-5, 4-6, 4-7, and 4-8 present cumulative effects from past, present, and reasonably foreseeable future activities when combined with Alternatives 1, 2, 3, and 4 respectively.

**TABLE 4-5
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE I**

Resource	Past and Present Actions	Alternative I Proposed Action	Future Actions	Cumulative Effects
Land Use	Military construction and use. Permitted grazing allotments throughout the LHTA. Operating limestone mine. Big game and bird hunting in nonclosure area, other Hunting, mountain biking, hiking, recreational vehicles. 7 private parcels within LHTA. 14 rights-of-way permitted by BLM/ 3 county roads. Approximately 50 residences within 0.5 miles of LHTA.	Potentially terminate all nonmilitary activities in LHTA including mining and private landownership & road use.	No additional reasonably foreseeable actions relevant to this resource.	Non military land use of the LHTA would be adversely affected.
Air and Noise	Sporadic impulsive noise from military activities. Noise and dust from mine and residential road use. Approximately 50 residences (noise receptors) within 0.5 miles of LHTA.	Potentially terminate all nonmilitary activities in LHTA including mining, private landownership, and road use.	Two subdivisions planned for the area adjacent to northeast corner of LHTA would add 5 residences (noise receptors) northeast of the LHTA.	60 potential noise receptors within the region of influence. No adverse cumulative effects from noise anticipated.
Geology/minerals	Operating limestone mine has extracted 18 million tons of ore.	Potentially terminate all nonmilitary activities in LHTA including mining.	No additional reasonably foreseeable actions relevant to this resource.	Mineral resource development limited to past production and mining of reserves within the existing mine permit boundary that do not conflict with the military mission.
Soil	Permitted grazing allotments throughout the LHTA. Operating limestone mine has disturbed approximately 300 acres. Grazing activities have disturbed approximately 200 acres.	Potentially terminate all nonmilitary activities in LHTA. Continued use of LHTA for military training.	Graymont is permitted to disturb up to 450 more acres and has applied to expand mine operations that would result in a maximum of 600 acres of unclaimed disturbance at any given time.	Soil resources would improve if mining, grazing and recreational use on the LHTA were prohibited.

TABLE 4-5 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND ALTERNATIVE I

Resource	Past and Present Actions	Alternative I Proposed Action	Future Actions	Cumulative Effects
Water	18 water wells have been installed on the LHTA. No perennial streams are present inside the proposed boundaries.	Use of approximately 140,000 gallons surface water once per year for military exercises. The proposed LHTA boundary would enable the MTARNG to access the Missouri River for fire fighting training.	Planned reclamation of Indian Creek downstream from Graymont mine outside of proposed LHTA.	No cumulative impacts to water quality or quantity are anticipated in the LHTA.
Vegetation	Permitted grazing allotments throughout the LHTA. Operating limestone mine has disturbed approximately 300 acres of vegetated ground.	UXO clearance continues at existing rate. Location of clearance would depend on safety concerns based on land use.	Graymont is permitted to disturb up to 450 more acres and has applied to expand mine operations that would result in a maximum of 600 acres of unreclaimed disturbance.	Vegetation likely to improve if mining, grazing and recreational use on the LHTA were prohibited.
Wildlife & Wildlife Habitat	Big game and bird hunting in nonclosure area. Permitted grazing throughout the LHTA. Loss of habitat due to mining, military activities, road and facility construction and use in the LHTA. Residential development outside the LHTA.	Potentially terminate all nonmilitary activities in LHTA. Continued use of LHTA for military training.	Increase in regional human population may potentially influence wildlife occurrence in or use of LHTA. Dedication of the Iron Mask property to nondeveloped use would potentially benefit wildlife.	Wildlife habitat may potentially improve if mining, grazing and recreational activities in the LHTA are prohibited.
Cultural	Operating Limestone Mine. Military construction and use over the past 40 years. Recreationists, and road use. 17 cultural resource studies have taken place in the LHTA.	Potentially terminate all nonmilitary activities in LHTA. Continued use of LHTA for military training.	No additional reasonably foreseeable activities relevant to this resource.	Impacts from past, present and most reasonably foreseeable activities are mitigated by previous cultural resource studies, surveys and inventories.

TABLE 4-5 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND ALTERNATIVE I

Resource	Past and Present Actions	Alternative I Proposed Action	Future Actions	Cumulative Effects
Social	Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels (1,432 acres) within LHTA. 5 rights-of-way permitted by BLM and 3 county roads. Iron Mask acquisition	Potentially terminate all nonmilitary activities in LHTA.	None anticipated.	Region could experience a loss of unmitigated opportunities for mining, utility placement, grazing. Private landowners could be required to sell property. Loss of recreational land use would be partially mitigated by Iron Mask purchase.
Social (Safety)	Live-fire military training exercises throughout the LHTA	Potentially terminate all nonmilitary activities in LHTA. Continued use of LHTA for military training. UXO clearance continues at existing rate. Location of clearance would depend on safety concerns based on land use.	No additional reasonably foreseeable activities relevant to this resource.	Human safety would improve if all nonmilitary activities were prohibited at the LHTA due to the presence of only trained personnel in UXO or live-fire hazard areas.
Economic	Permitted grazing allotments throughout the LHTA. Military training activities. Operating limestone mine. PILT payments of approximately \$26,000 per year to Broadwater County.	Potentially terminate all nonmilitary activities in LHTA. Continued use of LHTA for military training. Loss of 100 percent PILT to Broadwater County	No reasonably foreseeable actions relevant to this resource.	Business and local government revenue generated from mining, PILT and grazing in the region of influence could be terminated. Loss of jobs.

Notes:

LHTA= Limestone Hills Training Area

PILT = payments in lieu of taxes

UXO = unexploded ordnance

ROW refers to the right of way grant (Appendix A)

**TABLE 4-6
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 2**

Resource	Past and Present Actions	Alternative 2	Future Actions	Cumulative Effects
Land Use	Military construction and use. Permitted grazing allotments throughout the LHTA. Operating limestone mine. Big game and bird hunting in nonclosure area. Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels within LHTA. 5 rights-of-way permitted by BLM and 3 county roads. Approx 50 residences within 0.5 miles of LHTA.	Continue to allow all existing land uses without additional constraints in the LHTA.	No additional reasonably foreseeable actions relevant to this resource.	No cumulative impacts.
Air and Noise	Sporadic impulsive noise from military activities. Noise and dust from mine and residential road use. Approximately 50 residences (noise receptors) within 0.5 miles of LHTA.	Mining would be allowed to continue as UXO is cleared. Military activities would remain at the same level as current. Road use would continue as under current conditions.	Two subdivisions planned for the area adjacent to northeast corner of LHTA would add 5 residences (noise receptors) northeast of the LHTA.	60 potential noise receptors within the region of influence. No adverse cumulative effects from noise anticipated.

**TABLE 4-6
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 2**

Resource	Past and Present Actions	Alternative 2	Future Actions	Cumulative Effects
Geology/minerals	Operating limestone mine has extracted 18 million tons of ore.	Mining would be allowed to continue within existing permit areas as UXO is cleared. 30 million tons of limestone would be mined within the existing permit boundary.	<p>Graymont Limestone Mine plan of operations includes extraction of approximately one million tons of ore per year.</p> <p>Graymont holds a total of 368 unpatented mining claims in the LHTA, most of which have not been permitted for mining operations.</p>	30 million additional tons of limestone would be extracted within the existing mine permit area. Limestone resources to the south of the existing permit area are about 55 million tons and could be extracted if permitted. The tonnage of dolomite resources to the east of the existing limestone mining are unknown, however they are located on claims that could impact that MTARNG access to its training areas and under current conditions can not be mined. If a suitable plan were put forward by Graymont some of these claims might be able to be mined, however, more specific details of such a plan are needed.

TABLE 4-6 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND ALTERNATIVE 2

Resource	Past and Present Actions	Alternative 2	Future Actions	Cumulative Effects
Soil	Permitted grazing allotments throughout the LHTA. Operating limestone mine has disturbed approximately 300 acres of soil. Grazing activities have disturbed approximately 200 acres.	Grazing use and management would continue as currently permitted. Military and mining activities would remain at the same level as current (approximately 25 acres per year for 20 years).	Graymont Limestone Mine plan of operations includes 450 additional acres permitted for disturbance and 368 claims potentially permitted for mining over 20 years.	Approximately 1,400 acres of soil disturbance over a 20-year period. Mitigation measures for grazing and military construction activities would reduce to 500 acres of soil potentially disturbed by mining.
Water	18 water wells have been installed on the LHTA. No perennial streams are present inside the proposed boundaries.	Use of approximately 140,000 gallons surface water per year/one time use for military exercises. The proposed LHTA boundary would enable the MTARNG to access the Missouri River for fire fighting training.	Planned reclamation activities of Indian Creek downstream of Graymont mine.	No cumulative impacts to water quality or quantity anticipated.
Vegetation	Permitted grazing allotments throughout the LHTA. Operating limestone mine has disturbed approx. 50 acres of vegetated ground.	Mining would be allowed to expand as UXO is cleared. UXO clearance continues at existing rate.	Graymont Limestone Mine plan of operations includes 450 additional acres permitted for disturbance and 368 claims potentially permitted for mining over 20 years.	Approximately 1,400 acres of vegetation loss expected over a 20-year period. Mitigation measures for grazing and military construction activities would reduce to 500 acres of vegetation potentially removed due to mining activities.

TABLE 4-6 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND ALTERNATIVE 2

Resource	Past and Present Actions	Alternative 2	Future Actions	Cumulative Effects
Wildlife & Wildlife Habitat	Big game and bird hunting in nonclosure area. Permitted grazing throughout the LHTA. Loss of habitat due to mining, military activities, road a facility construction and use in the LHTA. Residential development outside the LHTA.	Mining would be allowed to expand as UXO is cleared. Military activities and recreational use would continue as they are currently	Potential short- to long-term loss or alteration of at least 500 acres of habitat due to continued operation of the Limestone Mine over 20 years, depending on mining/reclamation timeframe. Increase in regional human population may potentially influence wildlife occurrence in or use of the LHTA. Dedication of the Iron Mask property to nondeveloped use would potentially benefit wildlife.	Effects may potentially range from adverse to beneficial depending on rate, spatial scale and magnitude of impact vs. wildlife species affected.
Cultural	Operating Limestone Mine. Military construction and use over the past 40 years. Recreationists and road use. 17 cultural resource studies have taken place in the LHTA.	Mining would be allowed to expand as UXO is cleared. Military activities and recreational use would continue as they are currently.	Graymont Limestone Mine operating permit allows for up to 450 additional acres of disturbance. Other areas are proposed for mining over the next 80 years.	Impacts from past, present and most reasonably foreseeable activities are mitigated by previous cultural resource studies, surveys and inventories. Any approved mine expansion would address site-specific cultural resource studies and mitigation.
Social	Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels (1,389 acres) within LHTA. 5 rights-of-way permitted by BLM and 3 county roads. 8,069 acres of the LHTA is closed to public use. Iron Mask acquisition	All nonmilitary activities would be allowed to continue similarly to current conditions. 8,069 acres closed to public use indefinitely. Potential BLM acquisition of private land.	None anticipated.	Loss of recreational opportunities for an indefinite period of time in the closure area is mitigated by the availability of the Iron Mask property for public use and potential land acquisition by the BLM with assistance from the MTARNG.
Social (Safety)	Live-fire military training exercises throughout the LHTA	Mining would be allowed to expand as UXO is cleared. Continued UXO cleanup at existing rate.	No reasonably foreseeable actions related to safety.	No cumulative impacts to safety are identified.

TABLE 4-6 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND ALTERNATIVE 2

Resource	Past and Present Actions	Alternative 2	Future Actions	Cumulative Effects
Economic	Permitted grazing allotments throughout the LHTA. Military Training activities Operating Limestone Mine.	Mining would be allowed to expand as UXO is cleared. Loss of about 40 percent PILT to Broadwater County mitigated by a 1-time payment of about \$400,000 to Broadwater County. Grazing would continue as it is currently.	Graymont Limestone Mine plan of operations includes possible extraction of 55 million tons of ore and an undetermined amount of dolomite.	Revenue generating activities in the region of influence would likely continue at current levels. Loss of PILT to Broadwater county would be mitigated by a 1-time payment.

Notes:

BLM = Bureau of Land Management

LHTA = Limestone Hills Training Area

UXO = unexploded ordnance

PILT = payments in lieu of taxes

ROW refers to the right of way grant (Appendix A)

MTARNG = Montana Army National Guard

**TABLE 4-7
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)**

Resource	Past and Present Actions	Alternative 3	Future Actions	Cumulative Effects
Land Use	Military construction and use Permitted grazing allotments throughout the LHTA. Operating limestone mine. Big game and bird hunting in nonclosure area. Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels within LHTA. 5 rights-of-way permitted by BLM and 3 county roads. Approximately 50 residences within 0.5 miles of LHTA.	Continue to allow all existing land uses without additional constraints in the LHTA.	No additional reasonably foreseeable actions relevant to this resource.	No cumulative impacts. Same as Alternative 2.
Air and Noise	Sporadic impulsive noise from military activities. Noise and dust from mine and residential road use. Approximately 50 residences (noise receptors) are within 0.5 miles of LHTA.	Mining would be allowed to continue as UXO is cleared. Military activities would remain at the same level as current. Road use would continue as under current conditions.	Two subdivisions planned for the area adjacent to northeast corner of LHTA would add 5 residences (noise receptors) northeast of the LHTA.	60 potential noise receptors within the region of influence. No adverse cumulative effects from noise anticipated.

**TABLE 4-7
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)**

Resource	Past and Present Actions	Alternative 3	Future Actions	Cumulative Effects
Geology/minerals	Operating limestone mine has extracted 18 million tons of ore.	Mining would be allowed to continue as UXO is cleared.	<p>Graymont Mine operating permit includes extraction of approximately 30 million tons of limestone.</p> <p>Graymont also holds 368 unpatented mining claims in the LHTA, most of which have not been permitted for mining operations.</p>	<p>30 million additional tons of limestone would be extracted within the existing mine permit area. Limestone resources to the south of the existing permit area are about 55 million tons and could be extracted if permitted.</p> <p>The tonnage of dolomite resources to the east of the existing limestone mining are unknown, however they are located on claims that could impact that MTARNG access to its training areas and under current conditions can not be mined. If a suitable plan were put forward by Graymont some of these claims might be able to be mined, however, more specific details of such a plan are needed..</p>

TABLE 4-7 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Past and Present Actions	Alternative 3	Future Actions	Cumulative Effects
Soil	Permitted grazing allotments throughout the LHTA. Operating limestone mine has disturbed approximately 300 acres of soil. Grazing activities have disturbed approximately 200 acres.	Grazing use and management would continue as currently permitted. Military and mining activities would remain at the same level as current (approximately 25 acres per year for 20 years).	Graymont Limestone Mine plan of operations includes 450 additional acres permitted for disturbance and 368 claims potentially permitted for mining over 20 years.	Approximately 1,400 acres of soil disturbance over a 20-year period. Mitigation measures for grazing and military construction activities would reduce to 500 acres of soil potentially disturbed by mining.
Water	18 water wells have been installed on the LHTA. No perennial streams are present inside the proposed boundaries.	Use of approximately 140,000 gallons surface water per year/one time use for military exercises. The proposed LHTA boundary would enable the MTARNG to access the Missouri River for fire fighting training.	Planned reclamation of Indian Creek downstream of the Graymont mine.	No cumulative impacts to water quality or quantity anticipated.
Vegetation	Permitted grazing allotments throughout the LHTA. Operating limestone mine has disturbed approx. 300 acres of vegetated ground.	Mining would be allowed to expand as UXO is cleared. UXO clearance continues at existing rate.	Graymont Limestone Mine plan of operations includes 450 additional acres permitted for disturbance and 368 claims potentially permitted for mining over 20 years.	Approximately 1,400 acres of vegetation loss expected over a 20-year period. Mitigation measures for grazing and military construction activities would reduce to 500 acres of vegetation potentially removed due to mining activities.

TABLE 4-7 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Past and Present Actions	Alternative 3	Future Actions	Cumulative Effects
Wildlife & Wildlife Habitat	Big game and bird hunting in nonclosure area. Permitted grazing throughout the LHQA. Loss of habitat due to mining, military activities, road a facility construction and use in the LHQA. Residential development outside the LHQA.	Mining would be allowed to expand as UXO is cleared. Military activities and recreational use would continue as they are currently	Potential short- to long-term loss or alteration of at least 500 acres of habitat due to continued operation of Limestone Mine over 20 years depending on mining/reclamation timeframe. Increase in regional human population may potentially influence wildlife occurrence in or use of the LHQA. Dedication to the Iron Mask property to nondeveloped use would potentially benefit wildlife	Effects may potentially range from adverse to beneficial depending on rate, spatial scale and magnitude of impact vs. wildlife species affected.
Cultural	Operating limestone mine. Military construction and use over the past 40 years. Recreationists and road use. 17 cultural resource studies have taken place in the LHQA.	Mining would be allowed to expand as UXO is cleared. Military activities and recreational use would continue as they are currently.	Graymont Limestone Mine plan of operations includes 450 additional acres permitted for disturbance and 368 claims potentially permitted for mining over 20 years.	Impacts from past, present and most reasonably foreseeable activities are mitigated by previous cultural resource studies, surveys and inventories. Any approved mine expansion would address cultural resource mitigation.
Social	Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels (1,432 acres) within LHQA. 5 rights-of-way permitted by BLM and 3 county roads. 8,677 acres of the LHQA is closed to public use. Iron Mask acquisition	All nonmilitary activities would be allowed to continue similarly to current conditions. 8,110 acres closed to public use indefinitely. Potential BLM acquisition of private land.	No reasonably foreseeable actions apply to social resources.	Loss of recreational opportunities for an indefinite period of time in the closure area is mitigated by the availability of the Iron Mask property for public use and potential acquisition of private land by BLM with assistance from MTARNG.
Social (Safety)	Live-fire military training exercises throughout the LHQA	Mining would be allowed to expand as UXO is cleared. Continued UXO cleanup at existing rate.	No reasonably foreseeable actions apply to safety.	No cumulative effects are identified.

TABLE 4-7 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Past and Present Actions	Alternative 3	Future Actions	Cumulative Effects
Economic	Permitted grazing allotments throughout the LHTA. Military Training activities Operating limestone mine.	Mining would be allowed to expand as UXO is cleared. Loss of about 100 percent PILT to Broadwater County mitigated by a 1-time payment of about \$1,000,000 to Broadwater County. Grazers would have the option of a longer lease period.	Graymont Limestone Mine plan of operations includes 450 additional acres permitted for disturbance and 368 claims potentially permitted for mining over 20 years.	Revenue generating activities in the region of influence would likely continue at current levels. Loss of PILT to Broadwater county would be mitigated by a 1-time payment.

Notes:

BLM = Bureau of Land Management

LHTA= Limestone Hills Training Area

UXO = unexploded ordnance

PILT = payments in lieu of taxes

ROW refers to the right of way grant (Appendix A)

MTARNG = Montana Army National Guard

TABLE 4-8
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 4 (NO ACTION ALTERNATIVE – POST ROW)

Resource	Past and Present Actions	Alternative 4 (Post ROW)	Future Actions	Cumulative Effects
Land Use	Military construction and use. Permitted grazing allotments throughout the LHTA. Operating limestone mine. Big game and bird hunting in nonclosure area. Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels within LHTA. 5 rights-of-way permitted by BLM and 3 county roads. Approx 50 residences within 0.5 miles of LHTA.	Potentially prohibit all land use in the closure area. Land use outside the closure area would not be subject to military mission requirements.	No additional reasonably foreseeable actions relevant to this resource.	No cumulative impacts.
Air and Noise	Sporadic impulsive noise from military activities. Noise and dust from mine and residential road use. Approximately 50 residences (noise receptors) within 0.5 miles of LHTA.	Mining would likely not be allowed to continue in existing or previous UXO hazard areas. Mining would likely be allowed in areas that never had UXO risk irrespective of current military mission needs. Military activities would cease. Road use would continue as under current conditions.	Two subdivisions planned for the area adjacent to northeast corner of LHTA would add 5 residences (noise receptors) northeast of the LHTA.	60 potential noise receptors within the region of influence. No adverse cumulative effects from noise anticipated. Noise and dust from mining and military use would be reduced.
Geology/minerals	Operating Limestone Mine has extracted 18 million tons of ore.	Mining would likely not be allowed to continue in existing or previous UXO hazard areas. Mining would likely be allowed in areas that never had UXO risk irrespective of current military mission needs.	None anticipated after the ROW is terminated.	Mining would likely be limited to the areas that never had UXO risk. This would reduce mining activities to the northwest portion of the LHTA.

TABLE 4-8 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 4 (NO ACTION ALTERNATIVE – POST ROW)

Resource	Past and Present Actions	Alternative 4 (Post ROW)	Future Actions	Cumulative Effects
Soil	Permitted grazing allotments are throughout the LHQA. Operating limestone mine has disturbed approximately 300 acres of soil. Grazing activities have disturbed approximately 200 acres.	Grazing use and management would continue as currently permitted in the nonclosure area and is likely to cease in the closure area. Military activities would cease. Mining activities would be reduced.	None anticipated after the ROW is terminated	Soil stability would likely increase slightly in the closure area after mining, grazing and military activities ceased.
Water	18 water wells have been installed on the LHQA. No perennial streams are present inside the proposed boundaries.	No anticipated actions related to water resources.	The BLM plans to complete the Indian Creek Reclamation Project.	Portions of the Indian Creek Reclamation project would take place within the current LHQA boundary. This would improve water quality.
Vegetation	Permitted grazing allotments throughout the LHQA. Operating limestone mine has disturbed approximately 300 acres of vegetated ground.	Grazing use and management would continue as currently permitted in the nonclosure area and is likely to cease in the closure area. Military activities would cease. Mining activities would be reduced or cease. Vegetative thinning for UXO clearance may continue.	None anticipated for this resource.	Vegetative cover in the closure area would not be removed for mining activities. If UXO clearance continues, conifer thinning would continue to take place.

TABLE 4-8 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 4 (NO ACTION ALTERNATIVE – POST ROW)

Resource	Past and Present Actions	Alternative 4 (Post ROW)	Future Actions	Cumulative Effects
Wildlife & Wildlife Habitat	Big game and bird hunting in nonclosure area. Permitted grazing takes place throughout the LHTA. Loss of habitat due to mining, military activities, road and facility construction and use in the LHTA. Residential development outside the LHTA.	Military activities throughout the LHTA would cease. Mining activities would be reduced or cease. Vegetative thinning for UXO clearance may continue. Recreational uses would continue as they are currently	Cessation of military training activities could potentially result in changes in the timing and intensity of human use of the LHTA. Potential short- to long-term loss or alteration of at least 500 acres of habitat due to continued operation of Limestone Mine over 20 years, depending on mining/reclamation timeframe. Increase in regional human population may potentially influence wildlife occurrence in or use of the LHTA. Dedication of the Iron Mask property to nondeveloped use would potentially benefit wildlife.	Effects may potentially range from adverse to beneficial depending on rate, spatial scale and magnitude of impact vs. wildlife species affected.
Cultural	Operating Limestone Mine. Military construction and use over the past 40 years. Recreationists and road use. 17 cultural resource studies have taken place in the LHTA.	Military activities throughout the LHTA would cease. Mining activities would be reduced or cease	Mining activities may take place in areas having had not previous risk of UXO.	Impacts from past, present and most reasonably foreseeable activities are mitigated by previous cultural resource studies, surveys and inventories. Any approved mine expansion would address cultural resource mitigation.

TABLE 4-8 (Continued)
CUMULATIVE EFFECTS FROM PAST, PRESENT AND REASONABLY FORESEEABLE ACTIONS AND
ALTERNATIVE 4 (NO ACTION ALTERNATIVE – POST ROW)

Resource	Past and Present Actions	Alternative 4 (Post ROW)	Future Actions	Cumulative Effects
Social	Hunting, mountain biking, hiking, recreational vehicles. 14 private parcels (1,432 acres) within LHTA. 5 rights-of-way permitted by BLM and 3 county roads. 8,677 acres of the LHTA is closed to public use. Iron Mask acquisition	Military activities throughout the LHTA would cease. Mining activities would be reduced or cease. Grazing in the closure area would likely be prohibited.	None anticipated.	Loss of grazing land would adversely impact local grazers and the farming community. Loss of mining and military use of the LHTA would adversely impact local businesses and employment opportunities. Cessation of military training throughout the LHTA would benefit all other land uses by eliminating the need to coordinate uses. Dedication of the Iron Mask property and transfer of other similar private land to the BLM would mitigate loss recreational land.
Social (Safety)	Live-fire military training exercises throughout the LHTA	Military activities throughout the LHTA would cease. Mining activities would be reduced or cease. UXO cleanup would continue at an unknown rate.	Entire closure area could be closed to all activities while UXO risk remains.	Human safety would increase due to reduced mining, termination of all military activities, and prohibition of all activities in a UXO hazard area.
Economic	Permitted grazing allotments throughout the LHTA. Military training activities Operating limestone mine Recreation	Military activities throughout the LHTA would cease. Mining activities would be reduced or cease.	None relevant to this resource area.	Revenue generating activities in the region of influence would be reduced or cease resulting in loss of jobs and local government revenue.

Notes:

BLM = Bureau of Land Management

LHTA= Limestone Hills Training Area

UXO = unexploded ordnance

PLT = payments in lieu of taxes

ROW refers to the right of way grant (Appendix A)

MTARNG = Montana Army National Guard

4.13 COMPARISON OF THE ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

This section compares and contrasts the effects of the various alternatives analyzed with respect to current conditions. To help in this comparison, all potential impacts are summarized in four tables, one for each alternative (Tables 4-9 through 4-12). While the right-of-way is in effect, the No Action Alternative best represents existing conditions. This is for the period of time the LHTA would be used for military training. A summary matrix showing type of impact (none, adverse or beneficial) is provided to compare alternatives (Table 4-13). An explanation of impact terms (minor, major, or significantly adverse) is provided in the introduction to Chapter 4.

In summary, Alternatives 1 and 4 would result in major or significant adverse impacts. Alternative 1 could significantly impact social and economic resources in Broadwater County through potential loss of the Graymont Mine and have a major adverse impact to the mine, property owners, and grazers if required to sell property to the Army or no longer allowed grazing privileges in the LHTA. Alternative 4 would have a major adverse impact on the MTARNG training program and long term funding for the MTARNG, and potentially, a significant adverse impact on the social and economic resources of Broadwater County if all nonmilitary use of the closure area was prohibited after the MTARNG ceased use of the LHTA.

**TABLE 4-9
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I**

Resource or Activity	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The MTARNG would assume all resource management responsibilities (with the exception of minerals, water rights, wildlife, and county roads). Resources would continue to be managed in accordance with state, federal and local laws and requirements. Priorities and specific management practices would be based on the LHTA Integrated Natural Resource and Cultural Resource Management Plans rather than the most current BLM Butte Field Office Resource Management Plan. This would not result in any appreciable change in management practices with the exceptions of grazing and land ownership (see below).
Cultural Resource Management	No effect	No changes in adherence to Federal and State requirements.
Military Use – Training and Safety	Beneficial	If all nonmilitary uses of the LHTA were terminated, use of the LHTA unhindered by the potential presence of other users would provide an improved training experience and improve safety conditions.
Military Use – Long-term availability	Beneficial	Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access	Major Adverse	Public access to the LHTA may be reduced or eliminated for some or all of the withdrawn land.
Grazing – Permit Retention	Beneficial	Competitive bidding for grazing permits would provide all users with equal opportunity to acquire a permit.
Grazing – Available Allotments	Adverse	Termination of grazing permits would adversely affect grazing opportunities.
Recreation (size of available area)	Adverse	Public access to the LHTA for recreation may be reduced or eliminated to some or all of the withdrawn land.
Recreation (status of closure area)	Adverse	Status of closure area would change from temporary to permanently closed to public access.
Recreation (hunting)	Adverse	Public access to the nonclosure area could be terminated.
Rights-of-Way	Adverse	Uncertainty about the tenure and conditions for existing holders of rights-of-ways and easements in the LHTA would increase.
Roads	No effect	This change in management may allow use of the Crow Creek Access Road currently closed year-around to use in the same manner as all federal land in the LHTA east of Old Woman's Grave Road; however, the use of Crow Creek Access Road could remain off limits to public use in the withdrawal area if the entire LHTA were closed to the public.
Property Ownership	Major Adverse	Private land owners in the LHTA may be required to sell their land to the Army.
Boundary Identification	Beneficial	Boundary identification between the closure/non-closure areas would be improved.

TABLE 4-9 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I

Resource or Activity	Effect	Impact Description
Air Quality and Noise (BLM Critical Element)		
Air Quality	No effect	The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area.
Noise	No effect	MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Effect is same as existing conditions.
Geology, Minerals, and Paleontology		
Mine Claims	Major Adverse	All mining claims determined to impact Army mission could be acquired by the Army. Acquisition of mineral rights and claims would take the form of purchase, condemnation, donation, or exchange. The funding source for claim acquisition is unknown. Value would be based on USACE appraisal.
Mine Expansion Permits	Major Adverse	No new mine operating permits or amendments to existing operating permits for mine expansion would be allowed to be issued within the LHTA.
Graymont Limestone Mining	Major Adverse	Graymont's current mine operations within the existing mine permit area would be expected to continue in accordance with existing Operating Permit. However, if the MTARNG deemed that the active mining operation was in conflict with or impacted the Guard's ability to carry out its mission, the active mine could be acquired and mining terminated. Terminating Graymont's mining operation would result in a failure to recover valuable limestone commodity resources. MTARNG has designated 94 existing Graymont claims in the surface danger impact zones and other active facility or training areas as being in conflict with the Guard's ability to carry out its mission at the present time. Mineral rights associated with these claims would be acquired, and potentially extinguished and the claims withdrawn from future mineral entry. No new operating permits or amendments would be issued and limestone resources outside of the existing permit boundary would not be mined.
Graymont Dolomite Resources	Major Adverse	Dolomite resources would not be mined as no new operating permits or permit amendments would be issued.
Mining Dependent on UXO Clearing	No effect	If mining continues, the Army would continue its efforts to clear UXO within the current mine permit area to be completed by 2008.
Mineral Exploration	Major Adverse	The ability to explore and develop mineral deposits on claims located outside surface danger and impact zones would be functionally disallowed by the Army as no new operating permits or amendments would be issued.

TABLE 4-9 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 1

Resource or Activity	Effect	Impact Description
Soil Resources		
Soil Erosion and Compaction	Beneficial	Soil compaction and erosion would be reduced in some areas of LHTA if grazing permits and mining activities were terminated.
Soil Conservation	No effect	Allotments would continue to be managed to standards similar to Montana Rangeland Health Standards until existing grazing permits expired or were terminated.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	MTARNG would continue to be responsible for implementing water resource protection practices throughout the entire LHTA activities.
Water Quality (from Non-Military Activities)	No effect	If mining activities were terminated, the mine would be reclaimed as described in the permit which requires that water quality is maintained. Changes to water quality from the continuation or elimination of recreational activities or the presence of private land would not be expected to occur.
Water Quality (from Changes in the Boundary)	No effect	Excluding Indian Creek from the LHTA would not affect water quality.
Water Rights	Adverse	No impacts to water quantity in the LHTA is anticipated; however the right to use water by private landowners would be affected if they were no longer allowed access to the land, or the land was acquired by the Department of the Army.
Vegetation		
Vegetation (general health)	Beneficial	If domestic livestock grazing were reduced or eliminated, there would be less impact to range condition, plant cover and vegetation diversity. If mining activities in the area were curtailed or eliminated, there would be less disturbance of vegetation types.
Weeds (BLM Critical Element)	Beneficial	Acquisition of state and private lands within the LHTA by the military would reduce grazing and noxious weeds and non-native invasive species.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA.
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 1.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 1.
Fish and Wildlife		

TABLE 4-9 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I

Resource or Activity	Effect	Impact Description
Wildlife	Minor adverse, no effect to minor beneficial	See the discussion on page 4-38. If domestic livestock grazing was reduced or eliminated, the potential conflict with certain wildlife species groups would be reduced; however, military activities would continue to affect wildlife. If mining activities were curtailed or eliminated, there would be less disturbance of the big game winter range habitat.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since no special species, including threatened and endangered species, are known to occur in the LHTA, no effect is expected to occur.
Cultural Resources (BLM Critical Element)		
Cultural Resources – Eligible Site Preservation	Adverse	Reconfiguration of surface danger zones could cause ground disturbance and may impact previously undisturbed ground and the cultural resources located therein.
Cultural Resources – Protection	Beneficial	Transferring private and state lands to federal ownership, the elimination of mining, and an increase in the size of the closure area, would afford more protection to significant properties located within the affected lands.
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.
Socioeconomics and Environmental Justice (BLM Critical Element)		
Local Grazing Permittees	Major Adverse	Reduction or elimination of grazing opportunities would prevent local permittees from using the LHTA for grazing.
Grazing (General)	Adverse	The general sense of the community as a ranching area would likely be altered.
Local Economy	Significantly Adverse	The elimination or decline of mining activities would have a cascading negative effect on regional employment, tax rolls, and the socio-economic environment in Broadwater County and the Region of Influence.
Local Government - Revenue	Major Adverse	Reduction or elimination of grazing opportunities could reduce revenues to local governments. Payments in lieu of taxes would be stopped because the land would be managed by the military, which does not participate in the program. Loss of revenue from Graymont Mine operations.
Local Business	Major Adverse	Terminating Graymont's mining operation would result in a loss of a portion of the capital investment in fixed mine facilities, loss of permitted future production, loss of exploration expenditures, and a loss in employment opportunities.

TABLE 4-9 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE I

Resource or Activity	Effect	Impact Description
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to manage waste and hazardous materials.
Ordnance and Explosives Cleanup	No effect	The proposed military use and thus ordnance and explosive activities of the LHTA would continue.
Human Safety	Beneficial	Improved boundary identification of the UXO high risk area and potential removal of public access to all of the LHTA would improve human safety.

Notes:

Army = U.S. Department of the Army

LHTA = Limestone Hills Training Area

UXO = unexploded ordnance

MTARNG = Montana Army National Guard

BLM = Bureau of Land Management

USACE = U.S. Army Corps of Engineers

TABLE 4-10
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The MTARNG and BLM would share resource management responsibilities based on location within the LHTA (with the exception of mineral resources and grazing). Resources would continue to be managed in accordance with state, federal and local laws and requirements. Priorities and specific management practices would be based on the LHTA Integrated Natural Resource and Cultural Resource Management Plans for the closure area, and the most current BLM Butte Field Office Resource Management Plan for the nonclosure area. This would not result in any appreciable change in management practices with the exception of cultural resources.
Cultural Resource Management	Adverse	Division of responsibilities regarding historical properties that straddle the closure/non-closure area would require an additional coordination effort on the part of the MTARNG and BLM.
Military Use	Beneficial	Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access	Beneficial	Land available for public access would increase by 288 acres.
Grazing (permit retention and allotments)	No effect	Grazing in the LHTA allotments would continue to be managed by the BLM. If the BLM allowed existing grazing permits to continue, range management would not change.
Recreation (size of nonclosure area)	Beneficial	Available land would increase by 388 acres.
Recreation (hunting)	Minor beneficial	Additional acreage for hunting would be available.
Rights-of-Way	Adverse	Any proposed change or addition to a valid existing right-of-way would be submitted to the MTARNG for review and permission, and the response could adversely impact those who request a new right-of-way or easement in the LHTA.
Roads	Beneficial	Crow Creek Access Road, currently closed year-around, would be opened to public use in the same manner as all federal land in the LHTA east of Old Woman's Grave Road.
Property Ownership	Beneficial or Adverse	Private and state land owners would have the options of selling the land, selling an easement, or land exchange to the Army. This would increase land ownership options to private and state land owners in the LHTA.
Boundary Identification	Beneficial	Boundary identification between the closure/non-closure areas would be improved. (same Alternative 1)
Air Quality and Noise (BLM Critical Element)		
Air Quality	No effect	The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area. (same as Alternative 1)
Noise	No effect	MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Effect could be partially mitigated. (same as Alternative 1)

TABLE 4-10 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Geology, Minerals, and Paleontology		
Mine Claims	No effect	Ninety-four mine claims determined to currently impact Army training objectives could not be used. This is the same as existing conditions.
Mine Expansion Permits	No effect	BLM and the MDEQ would continue to have the authority to issue mine expansion permit amendments or new operating permits. MTARNG approval for access (based on access to training areas, the presence of existing infrastructure and safety issues only), would be required. This is the same as existing conditions.
Graymont Limestone Mining	Minor effect	Graymont's current mine operations within the existing mine permit area would be expected to continue in accordance with the existing operating permit, however mining would not be allowed on red colored claims on Figures 5-2a and 5-2b along southeast margin of permit area. This may prevent the mining of a small amount of limestone reserves or impede access to mineable reserves.
Graymont Dolomite Resources	Minor Effect	Mining would not be allowed on red colored claims on Figures 2-5a and 2-5b that overlie dolomite resources currently proposed for mining in Graymont's new Permit Application. These resources have not been upgraded to mineable reserves at this point in time and have not been permitted for mining by the DEQ and BLM. Dolomite resources would probably not be mined. However, if a suitable plan were proposed by Graymont for mining these claims that provided acceptable access for the MTARNG to its training areas and existing infrastructure, some of these claims might be able to be mined.
Mining Dependant on UXO Clearance	No effect	The Army would continue its efforts to clear UXO within the current mine permit area by 2008.
Soil Resources		
Soil Erosion and Compaction	No effect	Grazing permits would be renewed with similar land management conditions as currently required. Vegetation clearing for mine-related activities would continue.
Soil Conservation	No effect	Soil would be managed in accordance with existing resource protection practices.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	MTARNG and BLM would continue to be responsible for implementing water resource protection practices in the LHTA in accordance with water quality laws and regulations.
Water Quality (from Non-Military Activities)	No effect	Water quality as a result of mining would be maintained. Changes to water quality from the continuation or elimination of recreational activities or the presence of private land would not be expected to occur.
Water Quality (from Changes in the Boundary)	No effect	Excluding Indian Creek from the LHTA boundary would not affect water quality.
Water Rights	Adverse	Impact to water rights could be mitigated as per Section 4.11 to no impact.

TABLE 4-10 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Vegetation		
Vegetation (general)	No effect	Mine expansion opportunities and restrictions would be the same as under current conditions.
Vegetation (Impacts from Grazing)	No effect	Livestock grazing in both the closure and non-closure areas would be managed by the BLM, and would be expected to continue according to current allotment agreements.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA (same as Alternative 1).
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 2.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 2.
Fish and Wildlife		
Wildlife	Minor adverse, no effect or minor beneficial	See the discussion on page 4-38. If non-federal (i.e., state and private) lands within the LHTA are acquired or placed under easement, some non-military activities associated with these lands (particularly building sites) would be reduced or eliminated; however, continued military activities would affect wildlife.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since special species are not known to occur in the LHTA, including threatened and endangered species, no effect would be expected to occur. (same as Alternative 1)
Cultural Resources (BLM Critical Element)		
Cultural Resources – Eligible Site Preservation	Adverse	Increasing the size of the non-closure area could result in eligible sites being more accessible and thus susceptible to vandalism.
Cultural Resources –Protection	Beneficial	Transferring private and state lands to federal ownership could afford more protection to cultural properties located within the affected lands.
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.
Socioeconomics and Environmental Justice (BLM Critical Element)		
Grazing Permittees	No effect	Grazing allotments would continue to be managed as they are under existing conditions.
Local Economy	No effect	Operating under the current mine permit would have stabilizing effect while mining operations extract the remaining product provided for under existing permits. Same as existing conditions. The continuation of the existing grazing management program would likely not affect local agricultural community, tax rolls, and land values and the socioeconomic setting in the socio-economic region of influence. Dolomite resources would likely not be mined. However, if a suitable plan were proposed by Graymont for mining these claims that provided acceptable access for the MTARNG to its training areas, some of these claims might be able to be mined.

TABLE 4-10 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 2

Resource	Effect	Impact Description
Local Government – Revenue	Adverse or no effect	Payments in lieu of taxes would be stopped for the portion of the LHTA managed by the military, which does not participate in the program. This impact could be mitigated by a one-time payment of \$400,000 to Broadwater County.
Local Business	No effect	Grazing, mining and MTARNG activities would continue as they are under existing conditions.
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to be the responsible party for managing waste and hazardous materials.
Ordnance and Explosives Cleanup	No effect	The proposed military use and thus ordnance and explosive activities of the LHTA would continue.
Human Safety	Beneficial	Improved boundary identification of the UXO high risk area would improve human safety.

Notes:

Army = U.S. Department of the Army

BLM = Bureau of Land Management

LHTA= Limestone Hills Training Area

UXO = unexploded ordnance

MTARNG = Montana Army National Guard

TABLE 4-11
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The MTARNG would assume all resource management responsibilities within the LHTA with the exception of mineral resources. Resources would continue to be managed in accordance with state, federal and local laws and requirements. Priorities and specific management practices would be based on the LHTA Integrated Natural Resource and Cultural Resource Management Plans rather than the most current BLM Butte Field Office Resource Management Plan for the nonclosure area. This would not result in any appreciable change in management practices.
Cultural Resource Management	No effect	Cultural resources would be managed by the same agency throughout the LHTA in accordance with all applicable requirements.
Military Use	Beneficial	Withdrawal of the LHTA for military purposes would secure the availability of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access	Beneficial	The land available for public access would increase by 287 acres (same as Alternative 1).
Grazing (Permit Retention and Allotments)	Beneficial	Grazing in the LHTA allotments would shift from the BLM to the MTARNG and existing permit holders would continue grazing under current lease conditions with the option to renew.
Recreation (size of available area)	Beneficial	The land available for recreation would increase by 388 acres (same as Alternative 2)
Recreation (status of closure area)	Adverse	Status of closure area would change from temporarily closed to permanently closed. This impact could be mitigated as per Section 4.11 to no impact.
Recreation (hunting)	Minor beneficial	Additional acres (287) for hunting would be available (same as Alternative 2).
Rights-of-Way	Adverse	Any proposed change or addition to a valid existing right-of-way would be submitted to the MTARNG for review and permission, and the response could adversely impact those who request a new Right-of-way or easement in the LHTA (same as Alternative 2).
Roads	Beneficial	Crow Creek Access Road, currently closed year-around, would be opened to public use in the same manner as all federal land in the LHTA east of Old Woman's Grave Road (same as Alternative 2).
Property Ownership	Beneficial or Adverse	The Department of the Army would not exercise its authority to condemn private land within the withdrawn land. Private and state land owners would have the options of selling the land, selling an easement, or land exchange to the Army. This would increase land ownership options to private and state land owners in the LHTA (same as Alternative 2).
Boundary Identification	Beneficial	Boundary identification between the closure/non-closure areas would be installed (same as Alternatives 1 and 2).

TABLE 4-11 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Air Quality and Noise (BLM Critical Element)		
Air Quality	No effect	The area is currently in attainment for all criteria pollutants. The proposed action and alternatives would have no impact on attainment status for the area (same as Alternatives 1 and 2).
Noise	No effect	MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence will be exposed to various noise sources during training activities. Effect could be partially mitigated (same as Alternatives 1 and 2).
Geology, Minerals, and Paleontology		
Mine Claims	No effect	Ninety-four mine claims determined to currently impact Army training objectives could be acquired by the Army. This is the same as existing conditions.
Mine Expansion Permits	No effect	The BLM and the MDEQ would continue to issue mine expansion permit amendments or new operating permits with the approval of the MTARNG (based on access to training areas, the presence of existing infrastructure and on safety issues only) (same as Alternative 2 and existing conditions).
Graymont Limestone Mining	Minor Effect	Graymont's current mine operations within the existing Mine Permit area would be expected to continue in accordance with existing Operating Permit (same as Alternative 2 and existing conditions), however mining would not be allowed on red colored claims on Figures 5-2a and 5-2b along southeast margin of permit area. This may prevent the mining of a small amount of limestone reserves or impede access to mineable reserves.
Graymont Dolomite Resources	Minor Effect	Mining would not be allowed on red colored claims on Figures 2-5a and 2-5b that overlie dolomite resources currently proposed for mining in Graymont's new Permit Application. In addition these resources have not been upgraded to mineable reserves at this point in time and have not been permitted for mining by the DEQ and BLM. Dolomite resources would probably not be mined. However, if a suitable plan were proposed by Graymont for mining these claims that provided acceptable access for the MTARNG to its training areas, and existing infrastructure some of these claims might be able to be mined.
Mining Dependant on UXO Clearance	No effect	The Army would continue its efforts to clear UXO within the current mine permit area by 2008 (same as Alternative 2 and existing conditions).
Mineral Exploration	No effect	Exploration and development of mineral deposits on claims located outside surface danger and impact zones would likely not change (same as Alternative 2). Exploration could proceed once safe access is obtained from the MTARNG with approval of an exploration program by the BLM.
Soil Resources		
Soil Erosion and Compaction	No effect	Allotments would continue to be managed for soil erosion and sedimentation as under existing conditions (same as Alternative 2).
Soil Conservation	No effect	Soil would continue to be managed in accordance with existing practices.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	MTARNG would assume responsibility for implementing water resource protection practices throughout the entire LHTA in compliance with state and federal requirements.

TABLE 4-11 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Water Quality (from Non-Military Activities)	No effect	Water quality as a result of mining would be maintained. Changes to water quality from the continuation or elimination of recreational activities or the presence of private land would not be expected to occur.
Water Quality (from Changes in the Boundary)	No effect	Excluding Indian Creek from the LHTA boundary would not affect water quality.
Water Rights	Adverse	Impact to water rights could be mitigated as per Section 4.11 to no impact.
Vegetation		
Vegetation	No effect	Mining expansion opportunities and restrictions resulting in disturbance of associated vegetation types, is the same as existing conditions and Alternative 2.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA (same as Alternative 1).
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected by Alternative 3.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 3.
Fish and Wildlife		
Wildlife	Minor adverse, no effect or minor beneficial	See the discussion on page 4-38. Same as Alternative 2.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since no threatened and endangered species are known to occur in the LHTA, no effect would be expected to occur (same as Alternatives 1 and 2).
Cultural Resources (BLM Critical Element)		
Cultural Resources – Eligible Site Preservation	Adverse	Increasing the size of the non-closure area could result in eligible sites being more accessible and thus susceptible to vandalism (same as Alternative 2).
Cultural Resources –Protection	Beneficial	Transferring private and state lands to federal ownership could afford more protection to significant properties located within the affected lands (same as Alternative 2).
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.
Socioeconomics and Environmental Justice (BLM Critical Element)		
Grazing Permittees	Beneficial	The adoption of grazing management under the MTARNG with an extended renewal period for permittees would beneficially affect the local agricultural community in the region of influence.

TABLE 4-11 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 3 (PREFERRED ALTERNATIVE)

Resource	Effect	Impact Description
Local Economy (Mining)	No effect	Operating under the current permit would have a stabilizing effect while mining operations extract the remaining product provided for under existing permits (same as existing conditions and Alternative 2). Dolomite resources would likely not be mined, unless there is a suitable proposal from Graymont that would still allow MTARNG unhindered access to the training ranges.
Local Government - Revenue	Beneficial or No Effect	Payments in lieu of taxes would be stopped because the land would be managed by the military, which does not participate in the program. This impact would be mitigated with a one-time payment of \$1,000,000 to Broadwater County.
Local Business	No effect	Grazing, mining, and MTARNG activities would continue as they are under existing conditions.
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to be the responsible party for managing hazardous waste and materials (same as Alternative 1 and existing conditions).
Ordnance and Explosives Activities	No effect	The proposed military use and thus ordnance and explosive activities of the LHTA would continue (same as Alternative 1 and existing conditions).
Human Safety	Beneficial	Improved boundary identification of the UXO high risk area would improve human safety.

Notes:

Army = U.S. Department of the Army

BLM = Bureau of Land Management

LHTA= Limestone Hills Training Area

UXO = unexploded ordnance

MTARNG = Montana Army National Guard

TABLE 4-12
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Land Use		
Natural Resource Management	No effect	The BLM continues management of resources in the LHTA. No changes in resource management are anticipated during or after termination of military use.
Cultural Resource Management	No effect	Cultural resources would continue to be managed by one agency throughout the LHTA.
Military Use (training and safety)	Major Adverse	No changes to the military use until the MTARNG ceases to use the LHTA sometime before March 26, 2014 are anticipated. Specifically, the annual use period would not change. After the 2014, the MTARNG would no longer be allowed use of the LHTA.
Military Use (long term availability)	No effect/adverse	Loss of the LHTA for military purposes would eliminate the use of a training site essential to the military mission for the MTARNG and other divisions of the Department of the Army.
Public Access (before end of ROW)	No effect	Public access would remain as is and no change in public access is likely to occur.
Public Access (after ROW)	Adverse	Removal rate of UXO is likely to slow after the right-of-way is no longer in effect, increasing the period of time of closure for UXO-hazard areas in the LHTA.
Grazing (permit retention and allotments)	No effect/adverse	Grazing management would continue as it is under current conditions. Grazing may be prohibited in closure area after MTARNG ceases management of UXO clearance
Recreation (size of available area)	No effect	Recreation would continue to be managed by the BLM.
Recreation (hunting)	No effect (short-term), minor beneficial (long-term)	Because military training activities do not take place during hunting season, no impact is anticipated during the duration of military activities. After cessation of military activities, some portions of the closure area may be opened for hunting.
Recreation (status of closure area)	Adverse	The length of time needed for clearance of the closure area and subsequent access for recreation would likely increase.
Rights-of-Way and Roads	No effect	The BLM would continue to be responsible for management and permitting all new rights-of-way. Proposed changes or addition to a valid existing right-of-way would not be submitted to the MTARNG for review and permission, or be subject to approval by the Army. Road access under the no action alternative would be the same as under existing conditions, access to the Crow Creek Access Road would continue to be closed.
Property Ownership	No effect	The Army would not acquire any land in the LHTA. Private and state land owners would not be offered the option of selling land or an easement to the Army.
Boundary Identification	No effect	LHTA boundaries would not be further identified.

TABLE 4-12 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Air Quality and Noise (BLM Critical Element)		
Air Quality	Beneficial	Until termination of the ROW grant, the proposed action and alternatives would have no impact on attainment status for the area. After termination of the ROW grant, dust raised by military vehicles would no longer affect the environment resulting in a beneficial impact to air quality.
Noise	Beneficial	Until termination of the ROW grant, MTARNG personnel, residents that live within the zone of influence, and wildlife that live, forage or pass through LHTA or the zone of influence would be exposed to various noise sources during training activities. After the MTARNG ceases use of the LHTA, noise from training activities would no longer affect the environment resulting in a beneficial impact.
Geology, Minerals, and Paleontology		
Mine Claims	No effect or major adverse	Mineral rights determined to impact Army training objectives would not be assumed by the Army. However use of mining rights for ground-disturbing activities in UXO-contaminated areas could be prohibited after termination of the MTARNG right-of-way.
Mine Expansion in current nonhazardous areas for UXO	Beneficial	Mine operating permits or amendments for expansion of existing permits would be reviewed by the MTARNG for safety and access until the military use of the LHTA ceased. Mine expansion would then likely be allowable into areas that are determined to have never been hazardous for UXO with no consideration for where claims are in conflict with the military mission.
Mine Expansion into cleared or noncleared UXO areas	Major Adverse	Current clearance status for ground-disturbing activities would likely be reversed by the responsible decision agency resulting in a prohibition of mining in areas previously contaminated with UXO.
Graymont Limestone Mining (short term)	No effect	Graymont's current mine operations within the existing mine permit area would be expected to continue in accordance with existing operating permit while the MTARNG continued use of the LHTA.
Graymont Limestone Mining (long term)	Major adverse	Potential prohibition of mining activities in the closure area after responsibility of UXO safety hazard is transferred to another agency.
Graymont Dolomite Resources	Major Adverse Effect	These resources have not been upgraded to mineable reserves at this point in time and have not been permitted for mining by the DEQ and BLM. Potential prohibition of mining activities in the closure area after responsibility of UXO safety hazard is transferred to another agency.
Mining Dependant on UXO Clearance	Major Adverse	The Army would continue to clear mine claims of UXO within the current mine permit area at the current rate until MTARNG use of the LHTA ceased. After the right-of-way is no longer applicable, the clearance rate is likely to change or stop.
Mineral Exploration	Major Adverse	Exploration and development of mineral deposits on claims located in the closed area potentially containing or previously containing UXO is likely to be prohibited after the MTARNG ceased military use of the LHTA.

TABLE 4-12 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Soil Resources		
Soil Erosion and Sedimentation	No effect	Range management for erosion and sedimentation would continue as it is currently.
Soil Conservation	No effect	Soil would continue to be managed in accordance with existing practices.
Water Resources (BLM Critical Element)		
Water Quality (from Military Activities)	No effect	The BLM would continue to be responsible for implementing water resource protection practices throughout the entire LHTA activities.
Water Quality (from Non-Military Activities)	No effect	Water quality as a result of mining would be maintained. Changes to water quality from the continuation of recreational activities or the presence of private land would not be expected to occur.
Water Rights	No effect	No impacts to water rights are anticipated.
Vegetation		
Vegetation	Beneficial	Mining expansion, grazing, military training exercises, UXO clearance, and other potential causes of vegetation disturbance would remain the same until the MTARNG ceased use of the LHTA. After that time, mining and exploration activities would likely be limited to areas having no potential for UXO contamination and vegetation disturbance by the MTARNG would also cease.
Threatened and Endangered Species (BLM Critical Element)	No effect	No federally listed or proposed endangered or threatened plant species are known to occur in the area of the LHTA.
Wetlands and Riparian Zones (BLM Critical Element)		
Wetlands	No effect	Wetlands in the LHTA would be unaffected.
Riparian Zones	No effect	The withdrawal area is bounded by the Missouri River for less than 25 feet, in a heavily disturbed area where people have accessed the river. Riparian areas are not affected by Alternative 4.
Fish and Wildlife		
Wildlife	Minor adverse, no effect or minor beneficial	See the discussion on page 4-38. Wildlife diversity, or the types and seasons of wildlife use of the training area would likely not change. If expansion of the Graymont mine were curtailed, less mountain mahogany would be removed from the LHTA. Eventual cessation of military activities may potentially have a minor beneficial effect.
Threatened and Endangered Species (BLM Critical Element)	No effect	Since no special species including threatened and endangered species, are known to occur in the LHTA, no effect would be expected to occur.
Cultural Resources (BLM Critical Element)		
Cultural Resources	No effect	Preservation and protection of cultural resources within the LHTA would remain unchanged.
Native American Religious Concerns	No effect	None of the nine tribal governments consulted regarding potential impacts from the proposed action identified Native American religious concerns.

TABLE 4-12 (Continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES
ALTERNATIVE 4 (NO ACTION)

Resource	Effect	Impact Description
Socioeconomics and Environmental Justice (BLM Critical Element)		
Local Economy	No effect or significant adverse	The continuation of the existing grazing management program would likely not affect the local agricultural community, tax rolls, and land values and the socioeconomic setting in the socio-economic region of influence. If mining is prohibited after military use ends, Broadwater County's economy would be affected.
Local Government - Revenue	No effect or major adverse	Payments in lieu of taxes by the BLM would continue. Loss of revenue from the mine would substantially impact county revenue.
Local Grazing Permittees	Adverse	Grazing allotments could be terminated in the closure area if, after the end of the MTARNG right-of-way grant, the agent for the Army determines that some or all closure area activities are inappropriate until the area is cleared.
Local Business	Adverse	Loss of the LHTA for military training would result in job loss in the tri-county study area, and reduction in MTARNG procurement expenditures in Montana.
Local Business (mining)	Major Adverse	After the MTARNG ceases use of the LHTA, mining activities could be prohibited in any area previously contaminated with UXO or within the closure area.
Hazardous Materials and Items of Special Concern (BLM Critical Element)		
Hazardous Materials Use and Disposal Procedures	No effect	The MTARNG would continue to manage non-UXO waste and materials until it ceased use of the LHTA.
Ordnance and Explosives Cleanup	Major Adverse	The proposed military use and thus ordnance and explosive activities of the LHTA would continue until termination of the MTARNG right-of-way. After the MTARNG ceased use of the LHTA, UXO clearance could slow or stop due to funding and management constraints, UXO clearance priorities in the LHTA could change depending on the priorities of the decision agency.
Human Safety	No effect	Boundary identification of the UXO high risk area would remain as is. If UXO clearance is discontinued, the closure area would likely remain in effect indefinitely.

Notes:

Army = U.S. Department of the Army

BLM = Bureau of Land Management

LHTA= Limestone Hills Training Area

UXO = unexploded ordnance

MTARNG = Montana Army National Guard

TABLE 4-13
SUMMARY OF IMPACTS FROM ALL ALTERNATIVES

Resource, Land Use, or Activity	General Impact				
	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 ¹	
				Short term	Long term
Natural Resource Management	No effect	No effect	No effect	No effect	No effect
Cultural Resource Management	No effect	Adverse	No effect	No effect	No effect
Military Use (Training and Safety)	Beneficial	Beneficial	Beneficial	Adverse	Major Adverse
Military Use (long-term availability)	Beneficial	Beneficial	Beneficial	Adverse	Major Adverse
Public Access	Major Adverse	Beneficial	Beneficial	No effect	Adverse
Grazing (Permit Retention)	Beneficial	No effect	No effect	No effect	Adverse
Grazing (available allotments)	Adverse	No effect	No effect	No effect	Adverse
Recreation (available area)	Adverse	Beneficial	Beneficial	No effect	Beneficial
Recreation (status of closure area)	Adverse	Adverse or No effect with mitigation	Adverse or No effect with mitigation	No effect	No effect
Recreation (hunting)	Adverse	Minor beneficial	Minor beneficial	No effect	Minor beneficial
Rights-of-Way	Adverse	Adverse	Adverse	No effect	No effect
Roads	No effect	Beneficial	Beneficial	No effect	No effect
Property Ownership	Major Adverse	Beneficial or Adverse	Beneficial or Adverse	No effect	No effect
Boundary Identification	Beneficial	Beneficial	Beneficial	No effect	No effect
Air Quality	No effect	No effect	No effect	No effect	Beneficial
Noise	No effect	No effect	No effect	No effect	Beneficial
Mine Claims	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Mining in Hazard Areas non-UXO	No effect	No effect	No effect	No effect	Beneficial

TABLE 4-13 (Continued)
SUMMARY OF IMPACTS FROM ALL ALTERNATIVES

Resource, Land Use, or Activity	General Impact				
	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 ¹	
				Short term	Long term
Mine Expansion Permits	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Graymont Limestone Mining	Major Adverse	Minor effect	Minor effect	No effect	No effect or Major Adverse
Graymont Dolomite Resources	Major Adverse	Minor effect	Minor effect	No effect	No effect or Major Adverse
Mining Dependant on UXO Clearance	No effect	No effect	No effect	No effect	Adverse
Mineral Exploration	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Soil Erosion and Compaction	Beneficial	No effect	No effect	No effect	No effect
Soil Conservation	No effect	No effect	No effect	No effect	No effect
Water Quality	No effect	No effect	No effect	No effect	No effect
Water Rights	Adverse	Adverse or no effect with mitigation	Adverse or No effect with mitigation	No effect	No effect
Vegetation (general health)	Beneficial	No effect	No effect	No effect	Beneficial
Vegetation (threatened and endangered species)	No effect	No effect	No effect	No effect	No effect
Wildlife	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial	Minor adverse, no effect to minor beneficial
Wildlife (threatened and endangered species)	No effect	No effect	No effect	No effect	No effect

TABLE 4-13 (Continued)
SUMMARY OF IMPACTS FROM ALL ALTERNATIVES

Resource, Land Use, or Activity	General Impact				
	Alternative 1	Alternative 2	Alternative 3 (Preferred Alternative)	Alternative 4 ¹	
				Short term	Long term
Cultural Resources (eligible site preservation)	Adverse	Adverse	Adverse	No effect	No effect
Cultural Resources (protection)	Beneficial	Beneficial	Beneficial	No effect	No effect
Native American Religious Concerns	No effect	No effect	No effect	No effect	No effect
Local Grazing Permits	Major Adverse	No effect	Beneficial	No effect	No effect or Adverse
Grazing Land Use (general)	Adverse	No effect	No effect	No effect	No effect or Adverse
Local Economy	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Local Government - Revenue	Major Adverse	Adverse or No effect with mitigation	Adverse or No effect with mitigation	No effect	No effect or Major Adverse
Local Business	Major Adverse	No effect	No effect	No effect	No effect or Major Adverse
Hazardous Materials Use and Disposal Procedures	No effect	No effect	No effect	No effect	No effect
UXO Clean Up	No effect	No effect	No effect	No effect	Major Adverse
Human Safety	Beneficial	Beneficial	Beneficial	No effect	No effect

Notes:

¹ Short term impacts under Alternative 4 refer to impacts that occur while military use continues at the LHTA. Long term impacts are those that are expected occur after MTARNG use of the LHTA is terminated.

NA = Not Applicable

UXO = Unexploded Ordnance

Major and significantly adverse impacts are shown in bold

4.14 UNAVOIDABLE ADVERSE EFFECTS

This section summarizes the adverse effects that cannot be mitigated that are expected to occur with implementation of each of the alternatives.

ALTERNATIVE 1

Alternative 1 includes a range of scenarios for nonmilitary land use at the LHTA. Under one scenario, all non-military activities would be terminated at the LHTA. If this scenario were implemented, it would have a noticeable adverse effect on socio-economic resources that could not be adequately mitigated. If mining activities were terminated in the LHTA, the economic effect on Broadwater County would be potentially 42 years (estimated current mine life in mine permit area) of lost wages from Graymont employees and indirect workers (such as retail, teachers, service workers) in an amount ranging from about \$1,000,000 to \$1,500,000 per year depending on the county in which the workers found employment. In addition, spending by Graymont on Montana vendors would result in a potential loss of about \$5,000,000 a year within the region of influence. The reduction or elimination of grazing opportunities would impact the local community, both in economic terms to individual permittees and with regard to the general sense of the community as a ranching area.

If mining activities were terminated, as much as 42 million tons of limestone would not be mined and products of value to the local and national economy in the construction and chemical industries (lime and hydrated lime) would not be produced from the LHTA.

Alternative 1 also includes loss of approximately \$26,000 per year in payments in lieu of taxes to Broadwater County from the BLM.

ALTERNATIVES 2 AND 3

This EIS does not identify adverse effects that cannot be mitigated.

ALTERNATIVE 4 (NO ACTION)

The No Action Alternative includes termination of military land use of the LHTA sometime before March 26, 2014 and the likelihood that mining activities in the closure area would not be allowed in UXO-cleared areas after the MTARNG ceases use of the area. If this alternative were implemented, it would have a noticeable adverse effect on socio-economic resources that could not be adequately mitigated. If training opportunities at the LHTA ceased, the economic effect on the region of influence from lost wages and indirect workers would be an amount ranging from approximately \$750,000 to \$1,000,000. In addition, the MTARNG and other military users of the LHTA spend an average of approximately \$20,000,000 per year on goods and services, of this amount, about \$15,000,000 is spent in Lewis and Clark County. Once the LHTA is no longer used as a military training site, UXO clean up priorities would likely change depending upon the agency responsible for clean up. If clean-up priorities did not include the mine operating permit area, mining activities would cease.

4.15 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term uses of the withdrawal area is characterized by existing land use of the area and the proposed military land use and all activities that such land use facilitates. Long-term productivity involves sustaining the interrelationships of the natural resource base in a condition sufficient to support ecological, social and economic health. Both the BLM and the MTARNG are directed by their respective resource management requirements to protect the natural and cultural values of the land they manage.

This document identifies that short-term uses of the LHTA would decrease under Alternatives 1 and 4. Alternative 1 would result in the restriction or termination of all nonmilitary uses, and Alternative 4 would result in the termination of military use and likely mining before March 26, 2014. Short term use of the LHTA under Alternatives 2 and 3 would remain similar to existing conditions. In general, Alternatives 2 and 3 represent the most intensive use of the LHTA. Alternative 4 (eventual termination of both mining and military use) would produce the greatest proportion of public use and the least intensive use.

Even without mitigation, all of the alternatives would manage resources within requisite regulatory standards for air quality, water quality, cultural resource preservation, and wildlife management, and thus would maintain and enhance long-term productivity. However, because impacts from military training, military road use and construction, mining and grazing would likely cease in the closure area, Alternative 4 presents the most protective alternative for the maintenance and enhancement of long-term productivity of the environment.

4.16 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Alternatives 2 and 3 would continue the general use pattern and commit future generations to use the LHTA in the same manner. Impacts from the use of the LHTA for military training (unexploded ordnance hazard) is not irreversible. An indirect affect of continued use of the LHTA by the MTARNG and, therefore, continued clearance of unexploded ordnance, is the likelihood that the existing mine would expand, and result in an irreversible and irretrievable commitment of natural resources.

INTERNATIONAL CONFERENCE

1994

The International Conference on the Role of the State in the Economy, held in Washington, D.C., in 1994, was a landmark event in the history of the World Bank. It was the first time that the World Bank had hosted a conference of this kind, and it was the first time that the World Bank had hosted a conference on the role of the state in the economy. The conference was organized by the World Bank and the International Monetary Fund (IMF), and it was attended by representatives of the World Bank, the IMF, and the governments of many countries. The conference was a success, and it was a landmark event in the history of the World Bank.

CHAPTER 5.0

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CHAPTER 6.0

ACRONYMS AND GLOSSARY

Acronyms

ADNL	A-weighted day-night average noise level
AIRFA	American Indian Religious Freedom Act
AR	Army Regulation
Army	U.S. Department of the Army
ARPA	Archaeological Resources Protection Act
AUM	Animal Units Monthly
BCPB	Broadwater County Planning Board
BLM	Bureau of Land Management
BP	Before Present
CaCO ₃	Carbonate
Ca,Ma(CO ₃)	Dolomite
CaO	Calcium oxide
Ca(OH) ₂	Hydrated calcium oxide
CAA	Clean Air Act
CDNL	C-weighted day-night average noise level
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	Carbon monoxide
COE	U.S. Army Corps of Engineers
CST	Collaboration in Science and Technology
dB	decibels
dBA	A-weighted decibels
dBC	C-weighted decibels
DDESB	Department of Defense Explosives Safety Board
DMA	Department of Military Affairs
DNRC	Department of Natural Resources and Conservation
DOI	Department of the Interior
DoD	Department of Defense
DRAGON	Wire-guided anti-tank missile
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPA	United States Environmental Protection Agency
ESS	Explosive Safety Submission

FACA	Federal Advisory Committee Act
FLPMA	Federal Land Policy Management Plan
ft	foot
FWP	Fish, Wildlife, and Parks
FWPCA	Federal Water Pollution Control Act
FWS	U.S. Fish and Wildlife Service
gal	gallon
gpm	gallons per minute
GWIC	Ground Water Information Center
HEP	High Explosive Plastic
ICRMP	Integrated Cultural Resource Management Plan
INRMP	Integrated Natural Resource Management Plan
ITRC	Interstate Technology and Regulatory Council
JCPB	Jefferson County Planning Board
LAW	Light anti-tank weapon
LCCPD	Lewis & Clark County Planning Department
LHTA	Limestone Hills Training Area
MAAQS	Montana Ambient Air Quality Standards
MBMG	Montana Bureau of Mines and Geology
MCA	Montana Code Annotated
MDEQ	Montana Department of Environmental Quality
MDT	Montana Department of Transportation
mm	millimeters
MOU	Memorandum of Understanding
MTARNG	Montana Army National Guard
MTNHP	Montana Natural Heritage Program
MUTA	Multiple Unit Training Assembly
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NHPA	National Historic Preservation Act
NO ₂	Nitrogen dioxide
NRCS	Natural Resources Conservation Service
O ₃	Ozone
OSHA	Occupational Safety and Health Administration

PILT	payments in lieu of taxes
PL	Public Law
PM _{2.5}	Particulate matter less than 2.5 micrometers
PM ₁₀	Particulate matter less than 10 micrometers
ppm	parts per million
PVC	Polyvinyl chloride
RMP	Resource Management Plan
ROI	Region of Influence
ROTC	Reserve Officer Training Corps
ROW	Right-of-way
SCS	Soil Conservation Service
SDZ	Surface danger zone
SIMITAR	Simulations in Training and Advance Readiness
SO ₂	Sulfur dioxide
sq ft	square feet
sq yd	square yard
STAB	Stabilization
SWL	Static water level
TNT	trinitrotoluene
TOW	Tubed-launched optically tracked wire-guided missile
µg/m ³	micrograms per cubic meter
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USACE	United States Army Core of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USP&FO	U.S. Property and Fiscal Officer
UXO	Unexploded ordnance

GLOSSARY

A

Acute: A short-term, intense health effect.

Alluvium: Loose gravel, sand, silt, or clay deposited by streams.

Ammunition: See *Munition*.

Amphibians: Amphibians are animals such as frogs that live part of their life in water and part of their life on land.

Annual: A plant that completes its life cycle in one year.

Anomaly: A subsurface feature identified through geophysical investigation that reflects the response of the sensor used to conduct the investigation. Anomalies may be geologic in origin or contain some other man-made iron-bearing material (including unexploded ordnance).

Anticline: An arched fold in layers of rock, usually in the shape of an inverted U.

Appropriations: The amount of money authorized by the General Assembly for state spending.

Appurtenances: Rights which pass with the title to the land itself.

Aquifers: a water-saturated zone of rock below the Earth's surface capable of producing water in useful quantities, as from a well.

Armory: A military depot used for the storage of weapons and ammunition. The term may also apply to an area within a building, used for the storage of weapons.

Atlatl: A weighted throwing stick used to increase the distance a spear could be thrown

Augment: To enlarge or increase.

B

Battalion: A unit of troops consisting of more than two companies, typically commanded by a lieutenant colonel.

Berms: A mound of earth formed to control the flow of surface water.

Biennial: Occurring every two years.

Billet: The place to which a soldier is assigned to sleep.

Bivouac: A temporary encampment without the shelter of tents.

Bradley infantry fighting vehicle: A fully armored, fully tracked military vehicle that provides protected transport of an infantry squad to critical points on the battlefield. The vehicle is typically equipped with a M242 25mm Chain Gun, capable of firing either armor piercing or high explosive ammunition. It is designed to provide fire support during military operations and to destroy enemy tanks and other vehicles that may threaten the infantry it carries

C

Calcareous: A descriptive term used for rocks and other earth materials that have an abundance of calcium carbonate (CaCO_3).

Cantonment area: A temporary or semi-permanent military quarters.

Cavalry: A highly mobile military unit consisting of mounted soldiers.

Chronic: Prolonged or slow to heal; opposite of acute.

Civilian: A person who is not a member of a military

Clastic: Pertaining to a sedimentary rock composed principally of fragments derived from pre-existing rocks, rather than chemical precipitates.

Clearance: The removal of unexploded ordnance from the surface or below the surface at active and inactive ranges.

Closure area: An area that was historically used as a military training range that is closed due to potential danger from unexploded ordnance.

Codominant: Species that occur together and depend upon one another for growth.

Coliforms: Bacteria that live in the intestines (including the colon) of humans and other animals; used as a measure of the presence of feces in water or soil.

Colluvial: In soils, material that has been transported downhill and accumulated on lower slopes and/or at the bottom of the hill.

Crew-served weapons: Weapons operated by a crew of soldiers. An example of a crew-served weapon is a machine gun; the crew consists of a gunner and a loader.

Curation: A process of identification and organization of artworks in order to further knowledge.

D

Decibels: The logarithmic units used to describe sound intensity (or amplitude).

Deciduous: Trees and plants that shed their leaves at the end of the growing season.

Deployment: The relocation of forces and materiel to desired areas for military operations.

Detachment: A part of a unit separated from its main organization for duty elsewhere or a temporary military unit formed from other units or parts of units.

Detonation: A violent chemical reaction within a chemical compound or mechanical mixture involving heat and pressure. The result of the chemical reaction is exertion of extremely high pressure on the surrounding medium. The rate of a detonation is supersonic (more than 3,300 feet per second). A detonation occurs when an explosive munition is activated.

- Diabase*: an intrusive, mafic (dark-colored) igneous rock consisting essentially of calcium-rich plagioclase and some pyroxene mineral, usually augite.
- Disconformity*: Surfaces that represent missing rock strata but layers found above and below that surface are parallel to one another.
- Dissolution*: The process of chemical weathering of bedrock in which the combination of water and acid slowly removes mineral compounds from solid bedrock and carries them away in liquid solution.
- Dolomitization*: The process by which limestone is wholly or partly converted to dolomite rock, or dolomitic limestone, by the replacement of the original calcite by the mineral dolomite, usually through the action of magnesium-bearing water.
- Dudded ordnance*: An explosive munition which has not been armed as intended or which has failed to explode after being armed.
- Dud-producing ordnance*: Ordnance, which due to its design, is more likely not to explode as the result of certain kinds of impact.

E

- Endemic*: Restricted to a narrow, limited geographic area.
- En Echelon*: Geologic features that are in an overlapping or staggered arrangement.
- Ethnographic*: Pertaining to ethnography, the branch of anthropology that deals descriptively with specific cultures.
- Ephemeral*: Short-lived; existing or continuing for a short time only.
- Evaporite*: A general group of rocks produced by the extensive evaporation of a saline solution.
- Evapotranspiration*: The water lost from an area through the combined effects of evaporation from the ground surface and transpiration from the vegetation.
- Extirpation*: The elimination or disappearance of a species or subspecies from a particular area, but not from its entire range.

F

- Fauna*: The animal life in a particular region.
- Firing point*: The point in the firing circuit where the device employed to initiate the detonation of the charges is located.
- Forbs*: Plants other than grasses, sedges or rushes; examples of forbs are clover, thistle and sage
- Fossiliferous*: Containing fossils.
- Fragmentation*: The process by which the casing of an artillery shell, bomb, grenade, etc is shattered by detonating high explosive filling. The correct technical terminology for these casing pieces is fragments, shortened to frag.

G

Geomorphic: Relating to the way the land is formed.

Geophysical survey: The quantitative investigation of subsurface conditions of the Earth through measurement, analysis and interpretation of physical properties. Geophysical methods include magnetic, electric, seismic, gravity and thermal techniques to determine characteristics from centimeters to thousands of meters below the earth's surface.

Granodiorite: An intrusive igneous rock similar to granite, but contains more plagioclase than potassium feldspar.

Grenade: A small explosive device thrown by hand.

Gunnery: An area of a range where munitions are fired.

H

Hafting technologies: A method of attaching a projectile point to a weapon shaft

Hazardous: The hazardous material inside an ordnance and explosive item.

Heavy forces: A large aggregation of military weapon systems, vehicles, and necessary support prepared for military operations. The term "heavy" refers to the types of equipment involved, particularly, tanks and artillery.

Herbaceous: A plant with a non-woody stem.

Hibernacula: Places where bats or other animals hibernate, or sleep, during the winter to conserve energy.

High explosive: An explosive, such as TNT, that combusts nearly instantaneously, thereby producing a violent, shattering effect. High explosive consists of a powerful chemical explosive that produces gas at a very high rate.

Historic Property: Any building, structure, site, object, or district, listed in, or eligible for listing in, the National Register of Historic Places.

Homeland security: As defined in the National Strategy for Homeland Security, is a concerted national effort to prevent terrorist attacks within the United States, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur.

Hogback: A narrow, sharp ridge formed on steeply inclined, resistant rock.

Howitzer: A type of field artillery used to fire explosive shells at ground targets up to 25 to 30 kilometers away.

Hydraulic conductivity: A measure of the rate at which water will move through a 1 ft. x 1 ft. cross-sectional area of an aquifer.

Hydric: An area characterized by abundant moisture.

Hydrophytic: Water-adapted or water-loving.

I

Igneous: A type of rock that is formed when magma cools.

Imbricated: Overlapping, like shingles on a roof.

Infantry: An army unit consisting of soldiers who fight on foot.

Intermittent: Stopping and starting at regular intervals.

Impact fuze: A fuze that is set in action by the striking of a projectile or bomb against an object, e.g., percussion fuze, contact fuze. Also called direct action fuze.

Impact Area: An area available for training that has designated boundaries within the limits of which all ordnance will detonate or impact.

Inert: The state of some types of ordnance, which have functioned as designed, leaving a harmless carrier, or ordnance manufactured without explosive, propellant or pyrotechnic content to serve a specific training purpose. Inert ordnance poses no explosive hazard to personnel or material.

Installation: A grouping of facilities, located in the same vicinity, which support particular military functions. Installations may be elements of a base.

J

Jurisdiction: The right and power to apply the law or the territorial range of legal authority or control.

K

Karst: A geologic formation of irregular limestone deposits with sinks, underground streams, and caverns.

L

Land Withdrawal: The term "withdrawal" means withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of Federal land, other than "property" governed by the Federal Property and Administrative Services Act, as amended (40 U.S.C. 472) from one department, bureau or agency to another department, bureau or agency.

Lenticular: Relating to or resembling a lens.

Legislation: The laws enacted by a legislative body or the act of making or enacting laws.

Light forces: An aggregation of military weapon systems, vehicles, and necessary support prepared for military operations. The term light refers to the types of equipment involved, particularly, Bradley infantry fighting vehicles and small arms.

Lithic: Of or pertaining to stone.

Live-fire training: Military training exercises in which live, charged munitions are used during practice.

Logarithmic: Applied to measures that increase by 1 whenever the factor they depend on is multiplied by a certain number. For example, if a value increased from 10 to 100 to 1000, then a logarithmic measure of that value could increase, say, from 1 to 2 to 3.

Low Order (LO): When an explosive munition detonates at well below its maximum rate it is said to be a low-order detonation. This short explosion results in explosive residue remaining in the round and usually in the vicinity of impact.

M

Maneuver area: An area to place land forces in a position of advantage. An area in which large-scale tactical exercises are conducted under simulated conditions of war.

Mesic: A habitat characterized by a moderate amount of moisture.

Micritic: Microscopic particles of calcium carbonate.

Microsites: Small ecological areas on a landscape.

Military: Of or relating to soldiers, arms, or war. The military organization includes armies and the attendant support staff. Also, it generally refers to a permanent, professional force of soldiers that are trained exclusively for the purpose of warfare.

Mortar: A muzzle-loading, indirect fire weapon with either a rifled or smooth bore. It usually has a shorter range than a howitzer, employs a higher angle of fire, and has a tube with a length of 10 to 20 calibers. See also gun; howitzer.

Munition: A complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in military operations, including demolitions. Certain suitably modified munitions can be used for training, ceremonial, or nonoperational purposes. Also called ammunition. (Note: In common usage, "munitions" [plural] can be military weapons, ammunition, and equipment.)

N

Niche: The unique environment or set of ecological conditions in which a specific plant or animal species occurs.

Non-dudded ordnance: Unfired, live munitions.

Noxious: Undesirable, troublesome, difficult to control or eradicate.

O

Oolitic: A textural term for sedimentary rocks consisting largely of oolites, which are small spherical or ellipsoidal accretions resembling fish eggs.

Ordnance: Explosives, chemicals, pyrotechnics, and similar stores, e.g., bombs, guns and ammunition, flares, or smoke.

Ordnance and Explosives (OE): All ammunitions products and components produced for or used by the armed forces for national defense and security. Includes confined gaseous, liquid,

and solid propellants; explosives; pyrotechnics; riot control agents; smokes and incendiaries. Also covers a more specific term for those ammunition products and components that may pose explosive safety risks called munitions and explosives of concern (MEC). MEC consists of two distinct types of military munitions with unique explosive safety risks: unexploded ordnance (UXO) and discarded munitions.

Orographic: Related to, or caused by, physical geography (such as mountains or sloping terrain).

P

Paucity: An insufficient quantity or number.

Pediment: A broad surface at the base of a receding mountain. The pediment develops when running water erodes most of the mass of the mountain.

Perennial: A plant that lives more than two years.

Permeability: A measure of the rate at which water will flow into or through soil or rocks.

Phenocrysts: A phenocryst is a relatively large and usually conspicuous crystal formed in the mass of a porphyritic igneous rock.

Physiographic: Pertaining to the origin and evolution of landforms.

Porphyry: An igneous rock in which relatively large, conspicuous crystals (called phenocrysts) are set in a fine-grained ground mass.

Projectile: An object projected by an applied force and continuing in motion by its own inertia, as mortar, small arms, and artillery shells.

Pramulgated: Made formally public; "published accounts".

Q

Qualification range: A portion of a range used for weapons training where soldiers can become eligible (qualified) to use specific weaponry.

R

Range: An area equipped for practice in shooting military weapons.

Range fan: An area surrounding and including the range area where projectiles may land by direct fire or ricochet

Readiness: The ability of military forces to fight and meet the demands of the national military strategy.

Reptiles: A class of air-breathing vertebrates that include the alligators and crocodiles, lizards, snakes, and turtles. Reptiles are characterized by a bony skeleton and a body usually covered with scales or bony plates.

Riparian: Pertaining to, living or situated on, the banks of rivers and streams.

S

Salmonid: Any member of the taxonomic family Salmonidae, which includes all species of salmon, trout, char, whitefish and grayling.

Savannah: grasslands with widely scattered trees and shrubs, found in regions with dry and rainy seasons.

Scrip: A certificate whose value is recognized by the payer and payee; scrip is not currency but may be convertible into currency.

Sedimentary: Formed from sediments laid down by water or wind, then compacted and cemented underground.

Seral: A plant species or community which will be replaced by another plant community if protected from disturbance.

Sere: The series of communities that follow one another in a natural succession.

Shrub: A woody plant with a framework of branches and little or no central stem.

Siliciclastic: Pertaining to clastic, non-carbonate rocks that are almost exclusively silicon-bearing, either as forms of quartz or as clays.

Sill: Geologic term for a flat (usually horizontal) mass of igneous rock between two layers of older sedimentary rock.

Small arms: Describes any weapon that a person can easily transport and fire. It includes personal weapons such as pistols, rifles, grenades, grenade launchers, mortars and machine guns.

Socioeconomic: Involving social as well as economic factors.

Subsistence: obtaining food and shelter necessary to support life.

Subterranean: situated or operating beneath the earth's surface; underground.

Surface danger zone: Areas that include the farthest distance that something fired from a firing point may reach including distances reached by fragment escape (Army Regulation 385-63).

Swales: A depression in the terrain.

Swept or sweep: To employ technical means to uncover ordnance.

T

Target: An area designated and numbered for firing.

Taxa: Any organism or group of organisms of the same taxonomic rank; for example, members of an order, family, genus, or species.

Toeslopes: A hillslope position that forms a gently inclined surface at the base of a slope.

Tracked vehicle: A self-propelled vehicle that moves on tracks, i.e. a tank.

Transmissivity: A measure of the rate at which water will move through an entire aquifer, not just a small cross-section.

Tuffaceous: The lithified ash and fragmented debris from a volcano.

U

Unexploded ordnance (UXO): Explosive munitions that were prepared for action but did not activate. Most UXO is from past activities associated with military troop training or weapons system testing. If UXO detonates, it could cause serious injury or death.

Ungulate: A hoofed mammal.

Unit: Any military element whose structure is prescribed by competent authority. It often denotes a group of organized, equipped, and trained military personnel for mobilization to serve on active duty as a unit or to augment or be augmented by another unit.

V

Vascular: Pertaining to fluid-conducting (xylem and phloem) tissues in plants.

Vehicular training: A portion of a range where military personnel learn to operate military vehicles.

Volcanic: Formed by the eruption of molten rock (lava or magma) onto the surface.

W

Waiver: The intentional and voluntary renunciation, abandonment, or surrender of some claim, right, or privilege. A waiver is often in writing, although sometimes a person's actions can act as a waiver. An example of a written waiver is a disclaimer, which becomes a waiver when accepted.

X

Xeric: Having very little moisture; tolerating or adapted to dry conditions.

Y**Z**

CHAPTER 7

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1. The first part of the document is a letter from the President of the United States to the Congress, dated January 1, 1863. It is a very important document, as it contains the President's message to Congress, which is a key part of the executive branch's communication with the legislative branch. The letter is written in a formal, official style, and it is signed by the President.

2. The second part of the document is a letter from the Secretary of the Treasury to the President, dated January 1, 1863. It is a very important document, as it contains the Secretary's report to the President, which is a key part of the executive branch's communication with the President. The letter is written in a formal, official style, and it is signed by the Secretary.

3. The third part of the document is a letter from the Secretary of the Treasury to the Congress, dated January 1, 1863. It is a very important document, as it contains the Secretary's report to the Congress, which is a key part of the executive branch's communication with the legislative branch. The letter is written in a formal, official style, and it is signed by the Secretary.

CHAPTER 8

AGENCIES AND INDIVIDUALS CONSULTED

The MTARNG sought consultation with federal and state agencies and with individuals and non-government stakeholders. The consultation process took place during scoping of the Legislative EIS. The scoping process formally began with the publication of the Notice of Intent documenting the MTARNG and BLM's intent to prepare a legislative EIS. In addition, interested individuals and organizations, potentially affected Federal, State, and local agencies, as well as potentially affected Indian Tribes were invited to submit comments to the MTARNG and/or BLM.

In addition to general scoping meetings, the MTARNG and BLM also met with several groups, including legislative representatives, County Commissioners (Lewis and Clark and Broadwater counties); and the BLM Western District Resource Advisory Council. The MTARNG invited the State of Montana, four Native American Tribes, and eight counties to be cooperating agencies in the Legislative EIS. Broadwater County, Lewis and Clark County, and the State of Montana have requested to participate in a document-review capacity. Regular briefings and other forms of collaboration have occurred for those agencies wishing to stay involved throughout the process.

The MTARNG and BLM held four public scoping meetings, eight stakeholder working group meetings, and an open house/tour of the LHTA. This section summarizes how these meetings were advertised and were conducted. The meetings were organized to include presentations by MTARNG representatives. Participants were also given the opportunity to meet one on one with MTARNG and BLM representatives to ask questions. A court reporter also attended the meeting to transcribe formal comments. The locations, dates and minutes from stakeholder and scoping meetings are provided in the LHTA Land Withdrawal Legislative EIS Scoping Report.

AGENCIES AND INDIVIDUALS CONSULTED DURING PREPARATION OF THE DRAFT LEGISLATIVE EIS

U.S. BUREAU OF LAND MANAGEMENT

Beals, Gary, Realty Specialist
Boyle, Kirsten, Weeds
Figarelle, Mary, Land Withdrawal Project Manager
Gableman, Joan, Geologist
Hartmann, Steve, Past Assistant Field Manager and Project Manager
Hotaling, Rick, Field Office Manager
Johnson, Renee, Assistant Field Office Manager
Keily, Carrie, Cultural Resources
Krause, Marilyn, Public Affairs Officer
LaMarr, Sarah, Wildlife Biologist
Mitchell, Celeste A, Realty Specialist, Washington DC Office
Pacioretty, Dave, Past Assistant Field Manager, Renewable Resources

Rixford, Brad, Outdoor Recreation Planner
Sandford, John, Range Conservationist (Weeds)
Small, Michael, Forester
Smith, Gary, Regional Archeologist, Billings Office
Thompson, Floyd, Vegetation
Thompson, John, Fire
Tuss, Charles, Fire Management Specialist (Fuels)
Williams, Susie, Past Project Manager
Williams, Dave, Geologist

U.S. DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

Hanson, Steve, Real Estate
Smith, Bob, Real Estate Appraisal consultant
Valk, James, Real Estate
Zillmer, Bob, Real Estate Appraisals

U.S. DEPARTMENT OF THE ARMY, NATIONAL GUARD BUREAU

Andersen, Eric, NGB Environmental Division, Conservation Branch Chief
Magnotta, Patrick, NGB Environmental Division, NEPA Specialist
Lott, Alan, NGB Readiness Center, Health and Safety
O'Keefe, Kim, NGB Environmental Baseline Study
Tatian, Chris MAJ, NGB NEPA Specialist
Wormser, Alan, NGB Cultural Resources

U.S. DEPARTMENT OF THE ARMY

Richan, Ted, Military Training
Sendek, Roseann, Judge Advocate General

U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE

Ecological Services
Wilson, Mark, Field Supervisor

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

Helena National Forest, Townsend Ranger District
Ihle, Beth

U.S. COUNCIL ON ENVIRONMENTAL QUALITY

Greczmeil, Horst

NATIVE AMERICAN INDIAN TRIBES

Consultation was sought from the following Tribes:

Blackfeet Tribal Business Council
Earl Old Person, Chairman

Chippewa Cree Business Committee
Alvin Windy Boy, Sr. Chairman,

Confederated Salish-Kootenai Tribes of the Flathead Reservation
Donald "Frederick" Matt, Tribal Council Chair

Crow Agency
Crow Tribal Council

Fort Belknap Community Council
Benjamin W. Speakthunder, Chairman

Fort Peck Tribal Executive Board
Arlyn Headdress, Chairman

Northern Cheyenne Tribal Council
Geri Small, President

Shoshone Business Council
Ivan Posey, Tribal Chairman

Arapaho Business Council
Anthony Addison, Chairman

Shoshone-Bannock Tribes Business Council
Lionel Boyer, Chairman

MONTANA STATE HISTORIC PRESERVATION OFFICE

Mark Baumer, State Historic Preservation Officer

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

Townsend District
Carlsen, Tom

MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Kellogg, Casey, Grazing Management
Mason, Monte, State Lands Management
Williams, Garry, Forestry

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Plantenberg, Patrick, NEPA/Biologist

CITY OF HELENA

Waters, Belinda, City Planner

ELECTED OFFICIALS

Garrard, Jeff, Representative Rehberg
Luck, Holly, Senator Burns
Mann, Elaine, Broadwater County Commissioner
McCullough, Steve, Broadwater County Commissioner
Murray, Mike, Lewis and Clark County Commissioner

NON-GOVERNMENT STAKEHOLDER PARTICIPANTS

Browne, Mike (Graymont)
Chorney, Elton (Graymont)
Cole, Mike
Hahn, Chuck
Helmick, Troy
Ingalls, Kelly
Kimpton, Jackie
Kirkham, John S. (Graymont)
Lewis, Mike
Mackensen, Janice
Morgan, Jillian
Murfitt, Brad
Sanderson, Roger
Stoner, John
Spoon, Ron
Smith, Jack
Sanderson, Roger
Tuemmler, Melissa
Tuemmler, Paul
Wagner, Wayne
Wells, Jerry (Rocky Mountain Elk Foundation)

CHAPTER 9

DISTRIBUTION LIST

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Holly Luck
30 West 14th St., Suite 206
Helena, MT 59601

Representative Denny Rehberg
Mike Waite
950 N. Montana Ave.
Helena, MT 59601

Senator Jon Tester
Bill Lombardi
Capital One Center, 208 N. Montana, STE 202
Helena, MT 59601

Broadwater County Commissioners
County Courthouse
515 Broadway
Townsend, MT 59644

Lewis & Clark County Commissioners
City-County Building
316 N. Park
Helena, MT 59623

Jefferson County Commissioners
County Courthouse
P.O. Box H
Boulder, MT 59632

Mr. James Smith, Mayor
City of Helena 316 N. Park
Helena, MT 59623

Townsend Mayor
City Hall
129 S. Spruce
Townsend, MT 59644

USDA NRCS Broadwater County
Conservation District
415 S. Front St.
Townsend, MT 59644-2803

USDA NRCS Helena
790 Collen St.
Helena, MT 59601

USDA FS Helena NF
Kevin Riordan, Forest Supervisor
2880 Skyway Drive
Helena, MT 59601

USDA FS Helena NF
Townsend Ranger District
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Townsend, MT 59644

USDA FS Bozeman RD
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Bozeman, MT 59718

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Mr. Tom Carlson
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Helena, MT 59601

MT State Historic Preservation Office
225 N. Roberts
P.O. Box 201201
Helena, MT 59620-1201

MT State Clearinghouse
Lt. Governor's Office
State Capitol, Room 210
Helena, MT 59620

U.S. Environmental Protection Agency
Region 8, Montana Office
Federal Bldg. 10 W. 15th St., Ste 3200
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Helena, MT 59604

Montana Woolgrowers Assn.
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Montana Stockgrowers Assn.
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Public Lands Access Assn., Inc.
Tony Schoonen
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Ramsay, MT 59748-0002

National Wildlife Federation
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Nature Conservancy
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Mr. Jack Smith
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Michael and Sharon Lewis
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Deer Lodge, MT 59722

Joyceann Thompson
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Belgrade, MT 59718

Nate Finch
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Mitzi Rossillon
Renewable Technologies
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UM Western Dept. of Env. Sciences
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Gallatin Gateway, MT 59730

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Mr. Dan Lucas
Granite County Extension
P.O. Box 665
Philipsburg, MT 59858

Mr. Pat Flowers
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Bozeman, MT 59718

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Billings, MT 59101

Touch America
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Senior Technical Staff Mgr.
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Bellevue, WA 98006

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Bonneville Power Administration
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Portland, OR 97208

Northwestern Energy
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Butte, MT 59701

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Browning, MT 59417

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Chippewa Cree Business Committee
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Box Elder, MT 59521

Donald "Frederick" Matt, Chairman
Tribal Council of the Confederated Salish-
Kootenai Tribes of the Flathead Reservation
Box 278
Pablo, MT 59855

Crow Tribal Council
P.O. Box 159
Crow Agency, MT 59022

Benjamin W. Speakthunder, Chairman
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Arlyn Headdress, Chairman
Fort Peck Tribal Executive Board
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Poplar, MT 59255

Geri Small, President
Northern Cheyenne Tribal Council
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Lame Deer, MT 59043

Ivan Posey, Tribal Chairman
Shoshone Business Council
P.O. Box 538
Fort Washakie, WY 82514

Anthony Addison, Chairman
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Lionel Boyer, Chairman
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irstaff@helenair.com

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KCAP/KZMT Radio
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Fax: 406-442-7356

KGR Radio
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Fax: 406-443-7322

KMTX
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Mr. Dick Bruins
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Mr. Alan Wright
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Mr. John Wright
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Doreen Peters
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Bozeman, MT 59771

Lyle, Michael & Michelle Peters
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Sundi West
Environmental Office
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Mary Figarelle
U.S. BLM
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Alice Stanley
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Karen Lincoln
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Linda Michaletz
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Alicia Stickney
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Helena, MT 59601

Miriam Hacker
4940 Pearl East Circle
Suite 100
Boulder, CO 80301

APPENDIX A
CURRENT RIGHT-OF-WAY AGREEMENT





IN REPLY
REFER TO: 2 00/

EXHIBIT D

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

District Office

P. O. Box 3388

Butte, Montana 59702-3388

DECISION

RIGHT-OF-WAY GRANTED

MAR 26 1984

Section A

1. There is hereby granted, pursuant to Title V of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1761), a nonexclusive, nonpossessory right-of-way to:

The Montana Army National Guard
Department of Military Affairs
State of Montana
P.O. Box 4789
Helena, Montana 59604

In case of a change of address, the holder shall immediately notify the Authorized Officer.

2. To use, subject to terms and conditions set out below, the following described Public Land:

See Exhibit "B"

3. Description of the right-of-way facility and purposes:

Guard activities in the Limestone Hills fit two general categories, 1) construction and maintenance of improvements and 2) military training exercises.

Military Training Exercises will include the following:

The firing of armored tanks, mortars, and howitzers and their support weapons, including live ammunition.

Helicopter training and firing of all associated weapons with live ammunition.

Infantry maneuvers and firing exercises, including small arms, grenades, and mortars.

Training of various support groups, usually involving a bivouac, perimeter defense, and small arms firing.

Equipment maintenance and testing exercises.

Construction and Maintenance of Improvements - All existing improvements and all planned improvements approved by past permits are authorized by this grant. These improvements are detailed in three sources included with the case file. 1) The list of work orders and requests included with the right-of-way application. 2) The National Guard's Real Property Record. 3) The training area map and overlays on display in the Headwaters Resource Area office and to be included as an official part of the case file.

~~"Area E" which includes lands in T. 10 N., R. 4 W., and T. 11 N., R. 4 W.~~ is authorized for exercises which will involve activities such as map reading, a compass course, and small unit tactics with blank ammunition. Special conditions #27 through 33 apply to "Area E" only. "Area E" is also subject to all other terms and conditions except special stipulations #1 through 24.

As part of their range maintenance, the National Guard is also authorized to utilize the community gravel pit as long as they meet the authorized officers requirements for maintaining the gravel quarry area. Large withdrawals of material from the pit should be confirmed with the authorizing officer.

A map showing the location of the right-of-way over the described public land is attached hereto as exhibit "C".

TERMS AND CONDITIONS

Section B

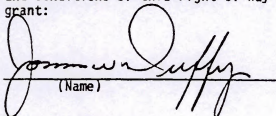
1. The right-of-way holder agrees to comply with all the applicable regulations contained in 43 CFR 2800.
2. If the right-of-way holder violates any of the terms and conditions of this grant, the Authorized Officer, after given written notice may declare the grant terminated.
3. This grant is subject to all valid rights existing on the effective date of this grant.
4. There is reserved to the Authorized Officer, the right to grant additional rights-of-way or permits for compatible uses on, over, under or adjacent to the land involved in this grant.
5. The right-of-way shall be relinquished to the United States if the authorized uses are no longer needed.
6. All other terms and conditions. Compliance will be in accordance with the terms and conditions as specified herein and in Exhibit "A", attached hereto and made a part thereof.
7. This right-of-way grant shall terminate 30 years from the effective date of this grant unless prior thereto it is relinquished, abandoned, terminated, or otherwise modified pursuant to the terms and conditions of this grant or of any applicable federal law or regulation.
8. This right-of-way grant may be renewed. If renewed, the right-of-way will be subject to the regulations existing at the time of the renewal, and such other terms and conditions deemed necessary to protect the public interest.

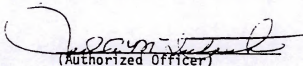
Section C

The effective date of this right-of-way grant is the date of execution by the Authorized Officer.

The undersigned agrees to the terms and conditions of this right-of-way grant:

The right-of-way grant
is executed this 26
day of March, 1984


(Name)


(Authorized Officer)

The Adjutant General
(title)

District Manager
(title)

25 April 1984

(Date)

THE UNITED STATES OF AMERICA

IN SENATE

COMMITTEE ON THE JUDICIARY

REPORT

ON THE

PROCEEDINGS

OF THE

SENATE

IN

THE

SENATE

IN

THE

SENATE

IN

THE

SENATE

IN

THE

Exhibit "A"
Special Stipulations

1. The season of use for active training purposes is restricted to the period from the second Monday in April to November 30 of each year with the following exceptions.
 - a. Minor maintenance or construction activities.
 - b. Helicopter flight training.
 - c. Specific exemptions approved in writing on a one time basis.
2. A representative of the National Guard will attend an annual meeting between the grazing permittees and the BLM to coordinate with the range users and to discuss any problems from the preceeding use season. The meeting will be arranged by the BLM.
3. The National Guard will submit a written training schedule at least one month prior to each years use season to the Butte District office. The District Manager will be notified of any changes in dates.
4. The National Guard will take all reasonable precautions to prevent or minimize damage to government-owned range or other improvements and to privately owned right-of-way improvements. The National Guard will bear full liability for repairing any such damage within a reasonable time with no expense to the Bureau of Land Management.
5. The National Guard will bear full liability for any damage to private property resulting from their actions.
6. The National Guard will take all prudent and reasonable precautions to minimize damage to all natural (i.e., vegetation, soil, water, wildlife) and cultural resources.
7. All tracked vehicles are to be confined to existing roads or designated parking, assembly, or firing areas.
8. During periods of actual training exercises the National Guard will take all necessary precautions to prevent injury to the general public. Necessary actions include the following:
 - a. Make full use of the local media to inform the public of all live firing exercises.
 - b. During periods of live firing the area of danger will be signed and posted to army safety standards and to the satisfaction of the authorizing officer. At the least, all major vehicle routes into the area of live firing will be signed.
 - c. Prior to live firing exercises, the Guard will patrol the entire area of danger to assure that no non-Guard members of the public are endangered.
 - d. To aid in controlling access, the National Guard may place barricades or gates across existing road and trails. These shall be removed or opened when an exercise is finished.

9. The National Guard will bear full liability to the extent of the law for any injury caused to a non-Guard member of the public. The BLM will bear no liability for such injury.
10. The National Guard will take all reasonable actions to prevent injury to livestock. Any dead or injured livestock will be reported to the grazing permittees and to the authorizing officer, whether or not the injury or death is a result of Guard action. The National Guard will pay the full costs for any damage to livestock resulting from their activities.
11. Immediately after any exercise during which live rounds are fired (excluding non-explosive ordinance), the National Guard will take all necessary action to locate and remove or destroy any undetonated rounds. All live rounds will be accounted for. Due to past use, the area cannot be certified as absolutely safe for public use and the impact area will be posted with signs to that effect. However, additional contamination from unexploded ordinance is not allowed and yearly sweeps of the range will be conducted to continue to locate and destroy unexploded ordinance.
12. The National Guard will make all reasonable efforts to keep the use area free of debris (pieces of targets, expended ordinance, used equipment, litter, etc.). Prior to the end of each years use season, a sweep of all active use areas will be conducted to remove litter and debris.
13. Wire from guided missile systems will be removed from the range immediately after use to prevent injury to livestock or wildlife.
14. National Guard personnel will not take personal firearms into the permit area during active duty.
15. The main road from the compound through the tank range and impact area will be maintained by the National Guard in a condition suitable to allow public use. This will include grading where necessary during and after the use season.
16. The National Guard will rehabilitate all areas of significant soil disturbance caused by their activities outside of designated roads and assembly areas. Each area will be returned to near natural contour and reseeded according to the attached list of seed mixtures and techniques. Rehabilitation will be completed within one year of the disturbance.
17. A cultural inventory has been performed on the entire permit area and the results have been published by Montana State University. This effort was sponsored by the Montana National Guard. The National Guard will avoid damaging sites identified in the report. A determination of the effect of future Guard activities on cultural resources will be made by the Butte District archeologist as each new proposal is submitted to the Bureau.

18. The National Guard shall be required to pay its proportionate share of costs incurred by BLM in any weed control program undertaken by the authorized officer. The proportionate share will be determined by the actual area of infestation attributable to National Guard activities. In some cases the Guard will be allowed to carry out their own weed control program under the direction of the authorizing officer.
19. The National Guard will take all necessary precautions to avoid contaminating the soil with oil and other such products. These products are to be contained and properly disposed of in accordance with State regulations outside of the permit area and off public lands. In the event soil contamination occurs, the National Guard will remove all contaminated soil to a depth of 18 inches and replace it with fertile native topsoil. All contaminated soil removed from the site will be properly disposed of outside the permit area and off of public lands. Minor contamination of major roads does not need to be removed unless the road is abandoned.
20. Future improvements or construction activities not covered in this grant must be approved in writing by the authorizing officer. A memo to the file will be sufficient documentation of projects approved during field examinations, but the list of authorized activities and improvements attached to the grant must be updated.
21. When a road or other improvement is no longer needed by the National Guard, the authorizing officer must be notified. Unless he waives this requirement, the National Guard will remove the abandoned improvement and rehabilitate the site to the satisfaction of the authorizing officer.
22. Helicopter use during the period from November 30 to the second Monday in April is restricted to that part of the permit area located east of the main county road (the Main Supply Route). This pertains to low level flights and landings.
23. The National Guard will take all necessary actions to suppress any fire caused by their activities. All costs for fire suppression and control will be borne by the National Guard. The National Guard will report all fires according to supplemental instructions which will be provided by this office. A fire capable tank truck and men trained in its use will be present during all training exercises.
24. Use of incendiary bullets (tracers) will be limited as much as feasible within the constraints of the Guard's training mission to minimize fire danger.
25. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
26. The Holder agrees not to exclude any person from participating in employment or procurement activity connected with this grant on the grounds of race, creed, color, national origin, and sex. The Holder will take affirmative action to utilize business enterprises

owned and controlled by minorities or women in its procurement practices connected with this grant. The Holder also agrees to post in conspicuous places on its premises which are available to contractors, subcontractors, employees, and other interested individuals, notices which set forth equal opportunity terms; and to notify interested individuals, such as bidders, contractors, purchasers, and labor unions or representatives of workers with whom it has collective bargaining agreements, of the Holder's equal opportunity obligations.

The following special stipulations pertain to "Area E" only:

27. The Montana National Guard will coordinate all military use of the area. The National Guard will notify the authorizing officer in advance of all proposed training exercises in "Area E".
28. No off-road vehicle use is authorized. All vehicles will use established roads and trails.
29. Emergency fire fighting equipment will be provided by the permittee and will be on-site during all training exercises.
30. Adequate sanitation facilities will be maintained and cleaned up at the completion of training.
31. All trash and other material resulting from permittee's use of the area will be removed upon conclusion of training.
32. All stock gates will be kept closed and disturbance to livestock will be avoided.
33. No live ammunition or explosives are to be used.

EXHIBIT "B"

Use Area - Montana National Guard

T6N, R1E:	Sec. 2, Lots 1, 2, 3, & 4, S $\frac{1}{2}$ N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$	640.56 ac.
	Sec. 3, All	677.40 ac.
	Sec. 4, All	674.25 ac.
	Sec. 5, Lots 1, 2, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$	335.98 ac.
	Sec. 8, E $\frac{1}{2}$, E $\frac{1}{2}$ SW $\frac{1}{4}$	400.00 ac.
	Sec. 9, All	640.00 ac.
	Sec. 10, All	640.00 ac.
	Sec. 11, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$	520.00 ac.
	Sec. 12, All	651.39 ac.
	Sec. 13, All	652.72 ac.
	Sec. 14, All	640.00 ac.
	Sec. 15, All	640.00 ac.
	Sec. 17, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$	480.00 ac.
	Sec. 20, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$	480.00 ac.
	Sec. 21, All	640.00 ac.
	Sec. 22, Lots 3 & 4, W $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$	224.15 ac.
	Sec. 23, All	640.00 ac.
	Sec. 24, All	653.06 ac.
	Sec. 25, All	654.22 ac.
	Sec. 26, All	640.00 ac.
	Sec. 27, Lots 1,2,3,4,5,6,7,8,&9, NE $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$	538.07 ac.
	Sec. 28, Lots 1,2,3,&4, N $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$, W $\frac{1}{2}$ SE $\frac{1}{4}$	610.89 ac.
	Sec. 29, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$	360.00 ac.
	Sec. 33, E $\frac{1}{2}$	320.00 ac.
	Sec. 34, Lots 1,2,3,4,5,6,7,&8, NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$	617.14 ac.
	Sec. 35, All	632.40 ac.
	SUBTOTAL T6N, R1E	14,602.23 ac.
T6N, R2E:	Sec. 17, S $\frac{1}{2}$ SW $\frac{1}{4}$	80.00 ac.
	Sec. 18, Lot 4, SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$	159.95 ac.
	Sec. 19, Lots 1, 2, & 3	119.46 ac.
	Sec. 20, W $\frac{1}{2}$	320.00 ac.
	Sec. 30, Lots 2,3,&4, NE $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$	517.76 ac.
	SUBTOTAL T6N, R2E	1,197.17 ac.
T7N, R1E:	Sec. 26, S $\frac{1}{2}$	320.00 ac.
	Sec. 27, Lots 5, 6, 7, & 8, S $\frac{1}{2}$ S $\frac{1}{2}$	281.23 ac.
	Sec. 28, S $\frac{1}{2}$ SE $\frac{1}{4}$	80.00 ac.
	Sec. 32, E $\frac{1}{2}$ <i>original plat not shown</i>	320.00 ac.
	Sec. 33, All	640.00 ac.
	Sec. 34, All	640.00 ac.
	Sec. 35, All	640.00 ac.
	SUBTOTAL T7N, R1E	2,921.23 ac.

~~NATURAL RESOURCES~~

T10N, R4W, Sec. 4, Lot 4
T11N, R4W, Sec. 27, SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ -excluding patent lands
Sec. 28, S $\frac{1}{2}$, excluding patent land
Sec. 33, N $\frac{1}{2}$, W $\frac{1}{2}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$
Sec. 34, W $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$

SUBTOTAL T10N, R4W 40.17 ac.

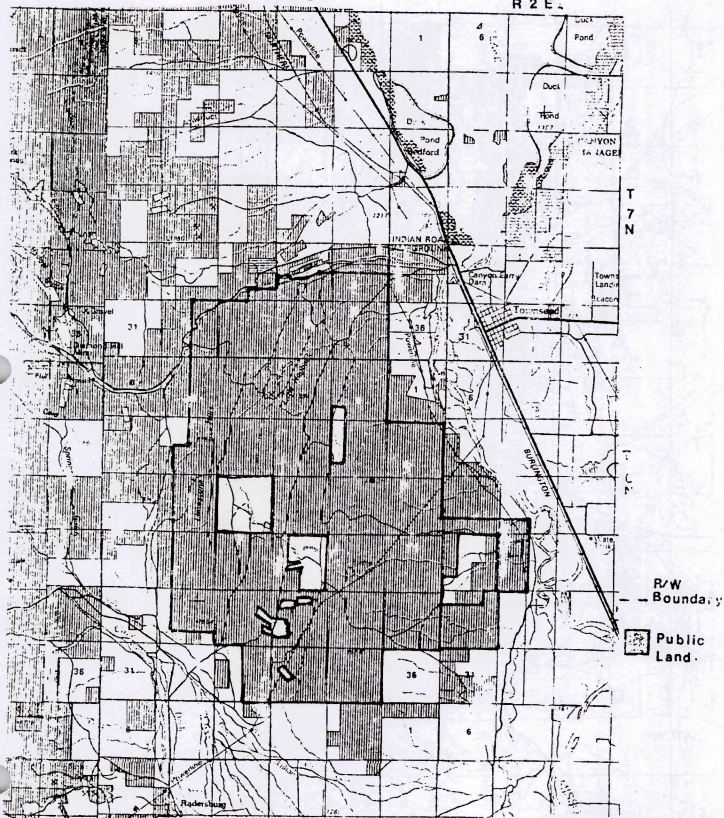
SUBTOTAL T11N, R4W 1320.00 ac.

TOTAL 20,080.00 ac.

EXHIBIT 'C'

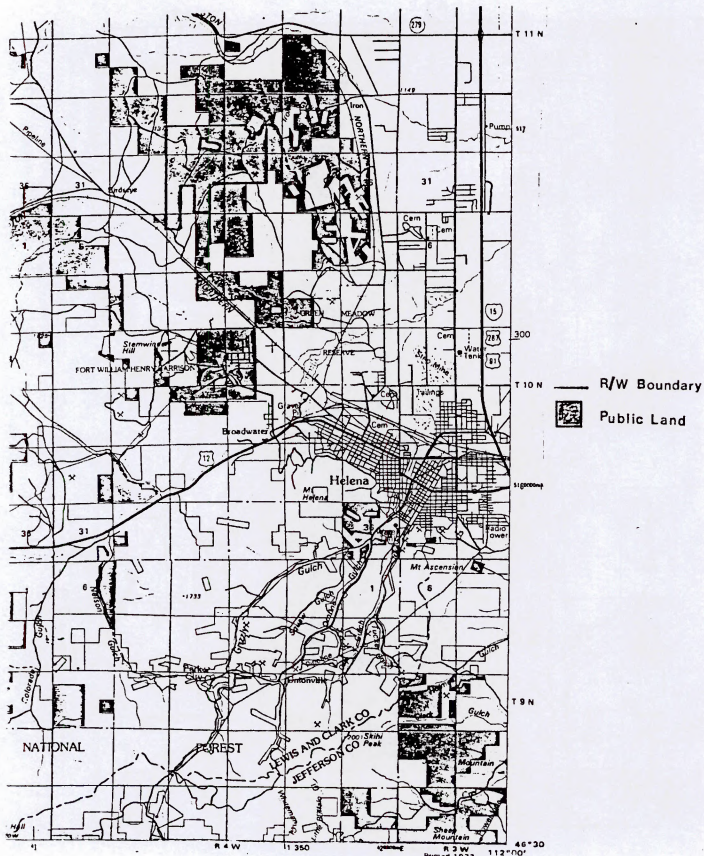
R 1 E

R 2 E.

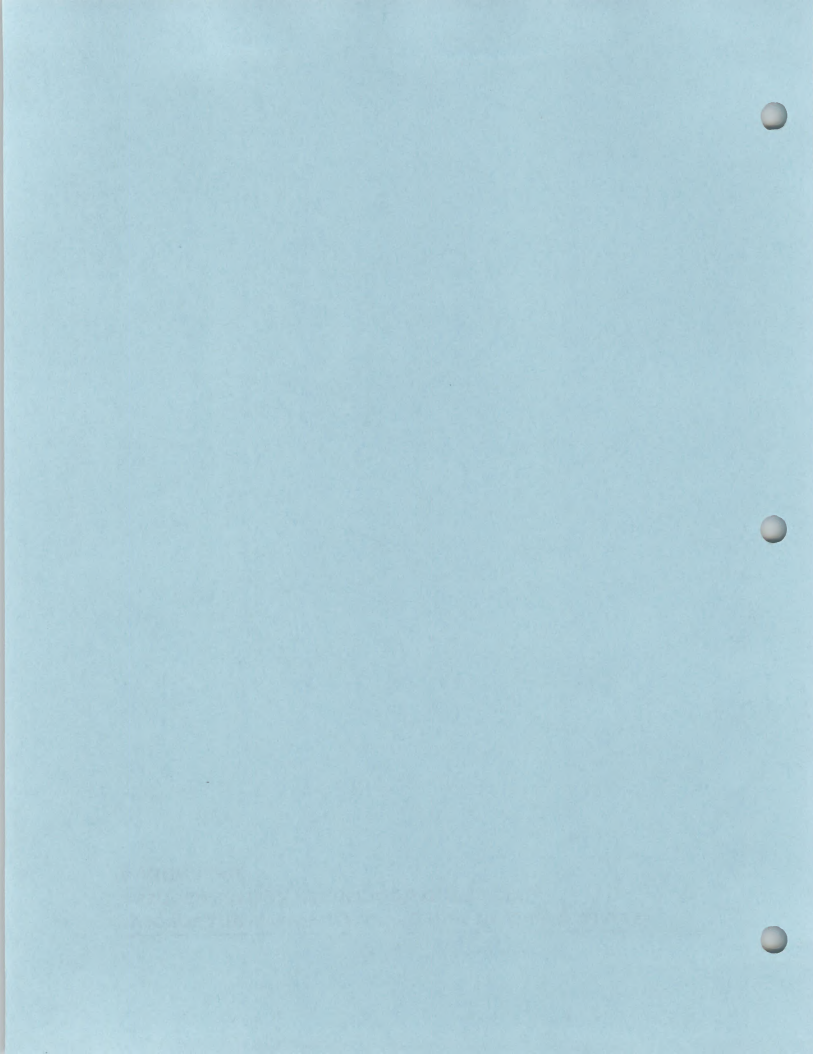


SCALE 1:100 000

AREA 'E'



APPENDIX B
MAJOR LAND ACQUISITION WAIVER REQUEST,
WAIVER APPROVAL AND DRAFT WITHDRAWAL PROPOSAL



MEMORANDUM FOR THE DEPUTY UNDER SECRETARY OF DEFENSE
(INSTALLATIONS AND ENVIRONMENT)

SUBJECT: Major Land Acquisition Moratorium

References are made to memorandums of September 13, 1990, from the Deputy Secretary of Defense, and of October 24, 1990, from the Principal Deputy Assistant Secretary of Defense (P&L), subject as above (see enclosures 3 and 4).

Pursuant to the above memoranda, a waiver to the moratorium is requested to proceed with a withdrawal of approximately 21,000 acres at the Limestone Hills Training Area, Montana, from the Department of the Interior, Bureau of Land Management.

The Montana Army National Guard (MTARNG) and other military units have been using the Limestone Hills Training Area since 1952. The withdrawal area consists of 20,652 acres, approximately 5,000 of which are used for gunnery and weapons training. The Right-of-Way agreement between the BLM and the MTARNG expires in 2013; the BLM has stated its intent to not renew the agreement; leaving no alternatives for mechanized and gunnery training in Montana. Approval of the waiver insures continued military readiness of the MTARNG and reduced costs to taxpayers by reducing or eliminating travel costs associated with transportation of units to training areas outside Montana. Additionally, the costs associated with this proposal are relatively low; the cost (\$500K) of the Environmental Impact Statement (EIS) being the largest. The EIS cannot be initiated until a waiver is approved. Other costs are in keeping with current MTARNG O&M budgets.

It would cost two to three million dollars to clear the area of unexploded ordnance using today's figures; the cost is expected to be in excess of \$50 million by the time the Right-of-Way agreement expires in 2013.

Request approval to prepare the National Environmental Policy Act and Real Estate Planning Report concurrently and, upon satisfactory completion of the documentation, to proceed with the withdrawal.

I have enclosed the request by the BLM (Enclosure 1) and the request by the National Guard Bureau (Enclosure 2) that the Department of Defense expedite the Limestone Hills Training Area withdrawal, plus other useful information relative to this submission. Answers to the standard 18 DoD major land acquisition proposal questions are at Enclosure 7.

Enclosures

Donald R. Manuel
Acting Deputy Assistant Secretary of the Army
(Installations and Housing)
OASAIE

COVER SHEET

CONTROL NUMBER

SUBJECT

Request for Waiver of the DoD Major Land Acquisition
Moratorium

OFFICE SYMBOL

DAMO-TRS

DATE

1 August 2001

ACTION REQUIRED

Obtain an exception to the DoD Major Land Acquisition Moratorium policy from the Deputy Under Secretary of Defense (Installation and Environment).

MEMORANDUM FOR RECORD. (Describe briefly the requirement, background, and action taken or recommended. Must be sufficiently detailed to identify the action without recourse to other sources.)

ORIGIN OF ACTION

1. The Department of the Interior, Bureau of Land Management (BLM), has requested (Enclosure 1) that the Montana Army National Guard (MTARNG) withdraw the Limestone Hills Training Area, currently under Right-of Way Agreement. The MTARNG has requested a waiver to the DoD Major Land Acquisition Moratorium in order to withdraw the land as requested by the BLM (Enclosure 2). The policy exception being requested is a waiver to the DoD Major Land Acquisition Moratorium established by the DEPSECDEF (Enclosure 3) and the PDASD (Enclosure 4).

BACKGROUND

2. The Montana Army National Guard (MTARNG) and the BLM, Butte District propose to transfer jurisdiction of Limestone Hills Training Area, BLM controlled property, to the Department of Army. The MTARNG currently uses the land under right of way agreement; the BLM now wants the Army to withdraw the land. As a military withdrawal of public lands, allowed under the Eagle Act, this training area would ensure current and future availability of gunnery training. Its withdrawal will also prevent future land-use restrictions, allow for realistic mechanized company team maneuver training, and ensure The Army's readiness with units that can maneuver, fight, and win per AR 350-41. There are no planned changes in the military use and range management of the land. All current public use of the area will remain as it is currently. Grazing and recreational activities by private entities will remain as they are now.

3. The MTARNG and other military units have been using the Limestone Hills Training Area since 1952. The withdrawal area consists of 20,652 acres, all of which are necessary to support continued land management and access, range safety and training. The Right-of-Way agreement between the BLM and the MTARNG expires in 2013; the BLM has stated its intent to not renew the agreement; leaving no alternatives for the MTARNG and other users to safely conduct mechanized and gunnery training in Montana. Approval of the waiver insures continued military readiness of the MTARNG and reduced costs to taxpayers by reducing or eliminating travel costs associated with transportation of units to training areas outside Montana. Additionally, the costs associated with this proposal are relatively low; the cost (\$500K) of the Environmental Impact Statement (EIS) being the largest. The EIS cannot be initiated until a waiver is approved. Other recurring costs are in keeping with current MTARNG O&M budgets.

4. The MTARNG has submitted a Land Use Requirements Study (LURS) (Enclosure 5) and an Alternative Analysis Study (AAS) (Enclosure 6) for concurrent DASA(I&H) approval with the request for waiver of the DoD moratorium (Enclosure 7).

(Continued on blank sheet)

COORDINATIONS

APPROVALS

OFFICE	NAME	PHONE	INITIALS	DATE
ASALE	Mr. Birney	695-0867	DIV	
DAIM-MD	Mr. McBryde	692-9227	DIR	
TJAG	CPT Hatch	696-1230		
ASALE	Mr. Cain	614-9555	EX	
NGB-ART	MAJ Coronado	607-7346	DCSOPS	
OCLL	LTC Corrigan	697-9690	FILE	DISPATCH
SHOW ADDITIONAL COORDINATION ON BLANK SHEET			<input type="checkbox"/> ALT HO	<input type="checkbox"/> AWC

ACTION OFFICER (Name, Grade, Phone and Signature)

Anthony M. B. Rekas, GS-13, 614-4991

OPS FORM 28
16 FEB 95REPLACES OPS FORM 28, 19 OCT 56
WHICH MAY BE USEDREGRADED
WHEN SEPARATED FROM CLASSIFIED DOCUMENT

OPS FORM 28, Cover Sheet

Subject: Request for Waiver of the DoD Major Land Acquisition
Moratorium to Withdraw a Land Parcel from the BLM

5. Waiver package consists of:

a. Letter, BLM, 15 JAN 93, Subject: Request for the MTARNG to withdraw the Limestone Hills Training Area (Enclosure 1).

b. Memorandum NGB-ARI, 5 APR 01, Subject: Major Land Acquisition Proposal and Request for Waiver to Land Acquisition Moratorium for Montana Army National Guard (Enclosure 2).

c. Memorandum, DEPSECDEF, 13 SEP 90, Subject: Land Acquisition in the United States (Enclosure 3).

d. Memorandum, Principal Assistant SECDEF, 24 OCT 90, Subject: Major Land Acquisition Moratorium (Enclosure 4).

e. Land Use requirements Study (LURS), Fort William Henry Harrison/Limestone Hills Montana, MAR 98 (Enclosure 5).

f. Alternative Analysis Study, Fort William Henry Harrison/Limestone Hills, MAR 98 (Enclosure 6).

g. Major Land Acquisition Proposal (Enclosure 7).

RECOMMENDATION

6. The DOT sign and date memorandum through the DCSOPS and DAS to the DASA(I&H) (RED TAB).

7. The DCSOPS concur and initial/date memorandum to DASA(I&H) requesting that the Acting DASA sign waiver memo to DUSD (TAB A).

DAMO-TRS

MEMORANDUM THRU DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
DIRECTOR OF THE ARMY STAFF

FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS AND
HOUSING)

SUBJECT: Request for Waiver of the DoD Major Land Acquisition Moratorium to
Withdraw the Limestone Hills Training Area, Montana – ACTION MEMORANDUM

1. References:

a. Memorandum, DEPSECDEF, 13 September 1990, Subject: Land Acquisition
in the United States.

b. Memorandum, Principal Deputy Assistant Secretary of Defense (P&L), 24
October 1990, Subject: Major Land Acquisition Moratorium.

2. Purpose.

a. To obtain approval of the Fort William Henry Harrison/Limestone Hills Land
Use Requirements Study (LURS) (Encl 5) and the Fort William Henry Harrison/
Limestone Hills Alternative Analysis Study (AAS) (Encl 6).

b. To obtain the signature endorsement of the Deputy Assistant Secretary of the
Army (I&H) on a memorandum (TAB A) to the Deputy Under Secretary of Defense
(IA&I) requesting a policy exception to withdraw the Limestone Hills Training Area,
Montana. The memorandum requests a policy exception (a waiver) to the DoD land
acquisition moratorium so that the Department of the Army can withdraw the Limestone
Hills Training Area from the Department of the Interior, Bureau of Land Management.
The exception would be to policies established by DEPSECDEF (Encl 3) and PDASD
(Encl 4).

3. Discussion:

a. The Department of the Interior, Bureau of Land Management, has requested
that the Montana Army National Guard (MTARNG) withdraw the Limestone Hills
Training Area, currently under Right-of Way Agreement (Encl 1). The Right-of-Way
Agreement expires in 2013, leaving military units in Montana without a training area
capable of sustaining weapons and maneuver training above the individual level.

DAMO-TRS

SUBJECT: Request for Waiver of the DoD Major Land Acquisition Moratorium to Withdraw the Limestone Hills Training Area, Montana – ACTION MEMORANDUM

b. The MTARNG and other military units have been using the Limestone Hills Training Area since 1952. The withdrawal area consists of 20,652 acres, approximately 5,000 of which are used for gunnery and weapons training. The Right-of-Way agreement between the BLM and the MTARNG expires in 2013; the BLM has stated its intent to not renew the agreement; leaving no alternatives for mechanized and gunnery training in Montana. Approval of the waiver insures continued military readiness of the MTARNG and reduced costs to taxpayers by reducing or eliminating travel costs associated with transportation of units to training areas outside Montana. Additionally, the costs associated with this proposal are relatively low; the cost (\$500K) of the EIS being the largest. The EIS cannot be initiated until a waiver is approved. Other costs are in keeping with current MTARNG O&M budgets.

c. There are no planned changes in the military use and range management of the land. All current public use of the area will remain as it is currently. Grazing and recreational activities by private entities will remain as they are now.

d. The LURS and AAS have been completed and are enclosed for DASA (I&H) review and approval. The EIS cannot be initiated unless a waiver is approved. If DoD approves the waiver and, the MTARNG satisfactorily completes the EIS, ACSIM will direct the U.S. Army Corps of Engineers to execute the withdrawal.

e. This action has been coordinated with ODUSD (IP) (Mr. Kleiman), ODASA (I&H) (Mr. Birney), NGB-ART-S (MAJ Coronado), and DAJA-EL (CPT Hatch). They concur with this action.

4. Recommendation: That the DASA (I&H) sign the memorandum to the DUSD (IP) at TAB A.

7 Encls

WILLIAM G. WEBSTER
Brigadier General, GS
Director of Training

1 August 2001

MEMORANDUM THRU DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
DIRECTOR, ARMY STAFF

FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY (ENVIRONMENT, SAFETY
AND OCCUPATIONAL HEALTH)

SUBJECT: Notice of Intent (NOI) to Prepare Environmental Impact Statement (EIS)—
ACTION MEMORANDUM

1. Purpose. To submit NOI to prepare an EIS for publication in the Federal Register.
2. Discussion:
 - a. Montana Army National Guard (MTARNG) and the Butte District Bureau of Land Management (BLM), propose to transfer jurisdiction of BLM controlled property to the Department of Army. The Limestone Hills Training Area has been used as a military training area since 1952.
 - b. NOI package consists of:
 - (1) Request for publication of NOI (Enclosure 1).
 - (2) The NOI itself (Enclosure 2).
 - (3) Information for Members of Congress (Enclosure 3).
 - (4) NOI Questions and Answers (Enclosure 4).
 - (5) Memorandum for Correspondents (Enclosure 5).
3. This EIS is required to support the Congressionally added range project.
4. Recommendation: That the DASA (ESOH) review NOI package and sign Federal Register transmittal letter at Enclosure 1.

5 Encls

JAMES J. LOVELACE
Brigadier General, GS
Director of Training

100-100000

THE FOLLOWING INFORMATION IS FOR YOUR INFORMATION ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSE.

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COVER SHEET		CONTROL NUMBER None
SUBJECT Notice of Intent (NOI) to Prepare Draft Environmental Impact Statement (EIS)		OFFICE SYMBOL DAMO-TRS
		DATE 1 August 2001

ACTION REQUIRED

DCSOPS sign memorandum transmitting NOI package to Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health), DASA(ESOH).

MEMORANDUM FOR RECORD. (Describe briefly the requirement, background, and action taken or recommended. Must be sufficiently detailed to identify the action without recourse to other sources.)

ORIGIN OF ACTION

1. Montana Army National Guard (MTARNG) prepared both Land Use Requirements Study (LURS) and Alternative Analysis Study (AAS) for NGB review in March 1999 (Enclosures 6-7). MTARNG Prepared NOI May 2000 for review by NGB in May 2000 (Enclosures 1-5).

BACKGROUND

2. The Montana Army National Guard (MTARNG) and the Bureau of Land Management (BLM), Butte District propose to transfer jurisdiction of Limestone Hills Training Area, BLM controlled property, to the Department of Army that the MTARNG currently uses under a right of way use agreement. The Limestone Hills Training Area has been used for military training since 1952. As a military withdrawal of public lands, allowed under the Engle Act, this training area would ensure future availability of armor, mechanized, and small arms gunnery training, joint service training usage, and prevent major unexploded ordnance clean up upon expiration of the current use agreement in 2013. Its withdrawal will also prevent future land-use expirations, allow for realistic mechanized company team maneuver training, and ensure readiness with units that can maneuver, fight, and thus win per AR 350-41.

3. NOI package consists of:

- a. Request for publication of NOI (Enclosure 1).
- b. The NOI (Enclosure 2).
- c. Information for Members of Congress (Enclosure 3).
- d. NOI Questions and Answers (Enclosure 4).
- e. Memorandum for Correspondents (Enclosure 5).
- f. Land Use Requirements Study (LURS) MAR 98.
- g. Alternative Analysis Study (AAS) MAR 98.

RECOMMENDATION

4. DCSOPS initial memorandum at TAB A transmitting NOI Package to DASA(ESOH) and requesting his review of the package and signature on Enclosures 1.

(Continued on blank sheet)

COORDINATIONS			APPROVALS	
OFFICE	NAME	PHONE	INITIALS	DATE
ASAIE	Mr. Birney	695-0867	DIV	
DAIM-MD	Mr. McBride	692-9227	DIR	
TJAG	CPT Hatch	696-1230		
ASAIE	Mr. Huber	614-9555	EX	
DAIM-F	MAJ Coronado	607-7346	DCSOPS	
OCLL	LTC Corrigan	697-9690	FILE <input type="checkbox"/> ALT HO	DISPATCH <input type="checkbox"/> AWC
SHOW ADDITIONAL COORDINATION ON BLANK SHEET				
ACTION OFFICER (Name, Grade, Phone and Signature) Anthony M. B. Rekas, GS-13, 614-4991				

ACQUISITION AND
TECHNOLOGY

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACTION MEMO

March 7, 2002, 10:30AM

FOR: MR. E.C. "PETE" ALDRIDGE, USD(AT&L)

FDUSD(AT&L)

FROM: Mr. Raymond F. DuBois, Jr., DUSD(I&E)

SUBJECT: Major Land Acquisition Moratorium Waiver Request Limestone Hills
Training Area, MT

- At TAB A, the Army is requesting to proceed with a no cost land withdrawal of 20,652 acres, from the Department of Interior, Bureau of Land Management (BLM).
- Montana Air National Guard (MTARNG) and other military units in the area have been using this training area since 1952. BLM has stated that the right-of-way agreement, which expires in 2013, will not be renewed because multiple use of the site by the public, in accordance with the current right-of-way agreement, is no longer feasible due to safety concerns. In order to safely conduct mechanized and gunnery training, and to preclude public access, the Army will withdraw the site.
- The Army will proceed with an EIS and will process the withdrawal as authorized by the Federal Land Policy and Management Act (43 USC 1701) and the Engle Act (43 USC 157). The withdrawal requires Congressional approval.
- On September 13, 1990, the Deputy Secretary instituted a moratorium on land acquisition to ensure that land would be acquired only when needed as we proceeded with what was to become three rounds of base closures and realignments (TAB B). This centralized OSD review and approval process remains in effect to ensure that the Services acquire land and buildings only where there is a clear demonstrated need.

COORDINATION: OUSD(C) and DoD(OGC) at Tab C.

RECOMMENDATION: USD(AT&L) approve the proposed waiver to the land acquisition moratorium by signing the approval line below.

USD(AT&L) Decision

Approve: E.C. Aldridge 5/1/02

Disapprove: _____

Other: _____

Prepared by: Steven Kleiman, IR&M/TM, 604-5807, March 7, revised March 24, 2002

MEMORANDUM FOR THE DIRECTOR, FBI

FROM: SAC, NEW YORK (100-100000)

SUBJECT: [Illegible]

DATE: 10/10/60

TO: DIRECTOR, FBI

FROM: SAC, NEW YORK (100-100000)

Re New York letter to Bureau dated 10/10/60, captioned as above.

Enclosed for the Bureau are two copies of a letterhead memorandum (LHM) dated and captioned as above.

The LHM is being prepared by the New York Office and is being submitted to the Bureau for information.

The LHM is being prepared by the New York Office and is being submitted to the Bureau for information.

The LHM is being prepared by the New York Office and is being submitted to the Bureau for information.

Very truly yours,

Special Agent in Charge

NEW YORK

100-100000

CONFIDENTIAL - SECURITY INFORMATION

APPENDIX C
LHTA AREA NEED CALCULATIONS



APPENDIX C

LIMESTONE HILLS TRAINING AREA

RANGE AREA NEED CALCULATIONS

The following land use requirements are taken from TC 25-1, Appendix A, Tables A-1 and A-2.

STEP 1: Initiate the ATLAM

STEP 2: Identify the MTP training event to be accomplished that has the largest maneuver area requirement.

STEP 3: Compute the number of acres needed to conduct all maneuver training required in the time available.

Following the example in TC 25-1, Page 3-1 for calculation of acres required:

- MTP gross km² days:
 - ARTEP 71-2 MTP, Mech IN/AR Bn TF-Movement to Contact
 - Density of Units: 2
 - Area requirements: $8 \times 31 \text{ km} = 248 \text{ km}^2$
 - Iterations to maintain proficiency: 4 iterations
 - Days per iteration to maintain proficiency: 1 day
 - Gross land required: $1 \times 248 \text{ km}^2 \times 4 \times 2 = 1,984 \text{ km}^2 \text{ days}$
- Acres required to accomplish training:
 - Total km² days = 1,984 km² days
 - AT days required: 8 (2 Bns x 4 iterations x 1 day each)
 - Acres per 1 km² = 247.1 acres
 - Acre days: $1,984 \times 247.1 = 490,246.4 \text{ acres days}$
 - Acres required: Acre days (divided by 8 training days) = $490,246.4 \div 8 = 61,280.8 \text{ acres}$

STEP 2A: Determine the type and number of ranges needed to conduct individual and collective training.

STEP 3A: Calculate the total acres needed for ranges and impact areas.

If all ranges were to be centrally located about a shared impact area, approximately 12,000 contiguous acres would be required. Because of training considerations, such as keeping the tank mortar firing separated from the small arms ranges so as to not distract firers, approximately 14,800 acres will be needed. These would be two separate packages of 11,000 and 3,800 acres respectively.

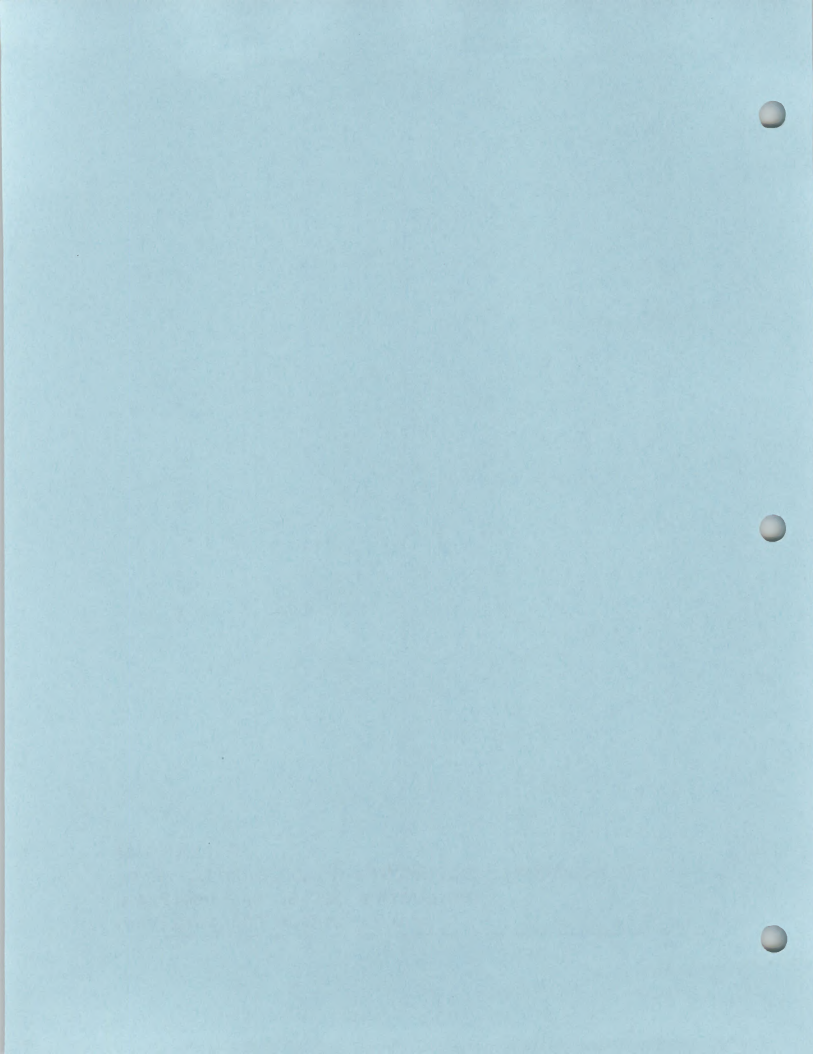
STEP 4: Compute the total acres that are both suitable and available for maneuver training.

Unit/Task	Land Requirements
INFANTRY	
Mech IN Bn-Movement to contact	$8 \times 31 = 248 \text{ km}^2$ (61,280.8 Acres)
Mech IN Bn-Offensive Operations	$4 \times 17 = 68 \text{ km}^2$ (16,802.8 Acres)
Mech IN Bn- Defensive Operations	$6 \times 23 = 138 \text{ km}^2$ (34,099.8 Acres)
Mech IN CO-Movement to Contact	$6 \times 14 = 84 \text{ km}^2$ (20,756.4 Acres)
Mech IN CO-Attack	$5 \times 10 = 50 \text{ km}^2$ (12,355.0 Acres)
Mech IN CO-Raid	$5 \times 10 = 50 \text{ km}^2$ (12,355.0 Acres)
Mech IN CO-Ambush	$5 \times 10 = 50 \text{ km}^2$ (12,355.0 Acres)
Mech IN CO-Defend	$3 \times 8 = 24 \text{ km}^2$ (5,930.4 Acres)
Mech IN CO-Recon and Security	$13 \times 6 = 78 \text{ km}^2$ (19,273.8 Acres)
ARMOR	
Armor Bn TF-Movement to Contact	$8 \times 31 = 248 \text{ km}^2$ (61,280.8 Acres)
Armor Bn TF-Offensive Operations	$4 \times 17 = 68 \text{ km}^2$ (16,802.8 Acres)
Tank CO- Movement to Contact	$2.5 \times 12 = 30 \text{ km}^2$ (7,413.0 Acres)
Tank CO-Offense	$2.25 \times 7 = 15.75 \text{ km}^2$ (3,891.8 Acres)
Tank CO-Recon and Security	$4 \times 4 = 16 \text{ km}^2$ (3,953.6 Acres)
ARTILLERY	
FA Bn, 105 mm (Towed)-Conduct Fire Support Ops	$15 \times 18 = 270 \text{ km}^2$ (66,717.0 Acres)
FA Btry, 105 mm (Towed)-Provide Fire Support Ops	$3 \times 16 = 48 \text{ km}^2$ (11,860.8 Acres)

These are the area requirements for various training ranges:

- Drop Zone = 185
- Small Arms = 250
- Impact Area = 525
- SDZ = 10,000
- Tracked Vehicle = 5 KM
- Bivouac Area = 10
- Maneuver Training = 19,273.8
- Dismounted Infantry Tactics Areas = 17,297
- Land Navigation Courses = 2,400

APPENDIX D
RANGE MANUAL DOCUMENTS: ROAD GUARD LETTER OF
INSTRUCTION, FIRE SUPPRESSION PLAN,
AND RANGE DUD TRACKING FORM



TRAINING SITE HEADQUARTERS
P.O. BOX 4789
HELENA, MT 59604-4789

LIMESTONE HILLS TRAINING AREA

THIS LOI APPLIES TO ALL LIVE FIRE OPERATIONS

1 FEBRUARY 2000

ROAD GUARD LETTER OF INSTRUCTION

1. RESPONSIBILITIES:

- a. Road guards (RG) will be posted at both ends of Old Woman's Grave Road (Vicinity Grids: Northern Access, VG 581312, Southern Access, VG 539173) during all live fire exercises. They will stop all civilian traffic and politely inform them of the following:

- 1) The Montana National Guard is conducting a live fire exercise in this area.
- 2) If they wish to pass through, the RG will notify the Range Officer in Charge (OIC) and/or Range Control.
- 3) They may have to wait up to 30 minutes while the Range Safety Office (RSO) ensures that all weapons systems are cleared and that it is safe to proceed.

- b. If the motorist wishes to continue:

- 1) Call the Range OIC and inform him/her that you have a vehicle wishing to traverse Old Woman's Grave Road.
- 2) Ask the OIC to give you an estimate on how long it will take the RSO to clear all weapons systems on the range. Inform the motorist of the approximate time of delay. If the motorist wishes to continue:
- 3) Radio the Range OIC and inform him/her of the motorist's intention.
- 4) Give a description (Make, Model, Color, License Plate Number, and Number of People in the automobile) to the other road guard.

- c. After the Range OIC has verbally informed you that the range is in check fire and all weapons systems are cleared and elevated, inform the motorist:

- 1) It is now safe to proceed.
- 2) Old Woman's Grave Road is the only road that is currently safe to travel on. Inform the motorist that the other road guard may momentarily delay them.
- 3) Inform the motorist to drive cautiously; there may be military equipment on this road.

- 4) That drive between road guard locations is approximately 20 to 30 minutes. If after a reasonable amount of time they have not arrived at the road guard location, the Range OIC will be notified and search units dispatched.
 - 5) The receiving road guard will radio the Range OIC and the original road guard confirming the vehicle has passed his/her location.
- d. If the motorist wishes to turn around instead of waiting:
- 1) Inform the Range OIC and/or Range Control that the motorist has decided to turn around and is now clear of the area.
2. ALWAYS REMEMBER THIS IS A BROADWATER COUNTY ROAD OPEN TO ALL CITIZENS. ALWAYS BE POLITE, COURTEOUS, AND PROFESSIONAL AT ALL TIMES. IF THERE IS A PROBLEM INFORM THE RANGE OIC.
3. ADDITIONAL DUTIES OF SOUTH ROAD GUARD:
- a. The south road guard has the additional duties of listening and/or watching for impacts of errant rounds that may impact outside impact area. He/She will contact the Range OIC if round is observed or heard. They will plot the estimated location of the impact on a map, and include the numbering of round.
4. REQUIRED EQUIPMENT:
- a. The using unit will equip the road guards with the following items.
 - 1) Road Guard LOI
 - 2) Flash Light
 - 3) Binoculars (Southern Road Guard Only)
 - 4) Map and Protractor (Southern Road Guard Only)

LIMESTONE HILLS TRAINING SITE - WILDFIRE SUPPRESSION PLAN

When signed by both the National Guard (NG) and the authorizing BLM officer this plan will become part of the National Guard's Training Right-of-Way Grant, M59995. This plan provides the supplemental information referred to under special condition #23 of the grant. The purpose of this plan is to clarify both the National Guard and BLM responsibilities for suppression of wildfires associated with National Guard Training Activity.

The Range Control Officer will assure that all units training in the Limestone Hills follow the terms and conditions of this plan.

Suppression Requirements

The policy for wildfires in the Limestone Hills and the Scratchgrave Hills is total suppression. Therefore, with the exception explained below, when a wildfire is detected during a National Guard sponsored training exercise, training will stop immediately and all necessary personnel and equipment will be utilized to suppress the fire. All fires will be put completely out before training can resume.

An adequate number of National Guard personnel will remain on the fire until suppression is complete or interagency fire center (IFC) personnel have relieved the NG of suppression responsibilities.

Live firing will not resume as long as IFC personnel are in the area.

Exception:

On firestarts within the actual tank firing range, the need for immediate suppression will be judgmental. The judgment of the Range Control Officer (RCO) will be final unless IFC personnel are dispatched to the fire. For example, a small grass fire, spreading slowly with calm winds and low burning conditions may not justify immediate suspension of a training exercise. However, all such fires will be fully suppressed before they become unmanageable. They will not be allowed to burn into surrounding areas of brushland or to burn beyond the immediate area of the tank range as delineated on the attached map and narrative descriptions. All firestarts in brush or other heavier fuels or during higher burning conditions will still require immediate suppression efforts.

When to begin suppression efforts is the only factor involved in this exception. All fires will still be put completely out.

Communication and Responsibilities

Direct radio communications will be established between the RCO and the Helena Dispatch or Butte Dispatch offices. BLM communications personnel will assist the NG in setting up a satisfactory radio system. The NG will provide necessary equipment. Direct radio contact will be the preferred method of reporting all wildfire starts. Satisfactory radio communications are critical to successful coordination of wildfire suppression efforts.

1. The National Guard will notify the Helena Dispatch in advance who the RCO will be for any given training exercise or time period. The RCO will establish and maintain positive communications with the Helena Dispatch Center. The RCO will be the primary NG contact for the Helena Dispatch Center, IFC personnel, or any BLH personnel. Helena Dispatch will notify Butte Dispatch of the listed RCO's.
2. Prior to the beginning of a training exercise, National Guard Headquarters will contact the Helena Dispatch Center. The NG will inform them of the expected duration of the training and will request the fire danger rating. Headquarters will insure that the RCO knows the fire danger rating.
3. Upon the detection of all wildfires, the RCO will contact the Helena Dispatch Center or one of the alternates listed below. The RCO will provide the dispatcher with the following information:

Location

Size

Burning Conditions (Wind Speed and Direction, Fuel Type, Etc.)

Available Manpower and Equipment

Estimated Time for Suppression

Need for Additional Manpower and Equipment

List of Contacts by priority:

Helena Dispatch - Radio or 449-5475

Harry Spurgeon, Night No. - 443-1240, Helena Dispatcher

Butte Dispatch - Radio or 494-5059, 494-5572

Dave Barney - 494-8171 (Home), Butte D.O. FMO

Wally Miller - 782-1010 (Home), Butte D.O. FMO

Lyle Fox - 494-4538 (Home), Butte D.O., Chief Div. of Opn's

Gary Leppart - 287-5323 (Home), Headwaters R.A. Manager

It is important that one of the above be contacted as soon as possible after a fire has started. It will be the Butte Fire Management Officer's responsibility to advise the NG of any changes in this contact list.

4. The Helena Dispatch Center will determine if a reported fire is routine and can be quickly suppressed by available NG personnel or if IFC personnel should be dispatched for initial attack. If NG personnel are to be included in the suppression effort, the IFC dispatch will include at least a Fire Boss III rated individual. Whenever IFC personnel are dispatched to a NG fire, the Helena Dispatch Center will contact the Butte District F.I.O. either directly or through Butte Dispatch.
5. Whenever IFC personnel have been dispatched to a NG fire, the Butte District F.I.O. will contact the Headwaters Area Manager or one of the alternates listed below:

Gary Leppart, Area Manager - Home (287-5323) Work (494-5059)

George Hirschenberger - Home (287-3714)
Larry Rau - Home (723-7092)
Bernie Hall - Home (443-4089)

These resource area contacts will determine if they need to send a resource advisor to the fire.

6. Any IFC personnel or resource advisors will report to the RCO upon arriving at the training area. Prior to establishing contact, crews should wait at the NG tank campground about one quarter mile north of the main county road from Townsend to Radarsburg in the SW1/4NE1/4, Sec. 26, T7N, R1E. Direct communication with the RCO must be established before proceeding to the fire.
7. The RCO will insure that all training cease prior to fire suppression efforts by IFC personnel. This will continue until all IFC personnel have left the area.
8. After contacting the RCO, the Interagency Crew Boss will assume control of the suppression effort and serve as fire boss. Upon assuming control, the Fire Boss will have responsibility for control methods, fire fighters, and equipment. The RCO will act as liaison for NG personnel and equipment and will assist in the fire suppression effort as directed by the Fire Boss.
9. If NG personnel have a compelling need to leave the fire, such as serious transportation needs, the RCO will notify the Fire Boss or Helena Dispatch in advance so additional IFC personnel can be dispatched.
10. The IFC Fire Boss will report to the RCO when the fire is out and IFC personnel have left the training area. At that time training may resume.
11. The RCO will contact the Helena Dispatch Center when a given training exercise has been completed. The RCO will report that either no fire starts occurred or that suppression efforts have been completed. He will explain the basis for his decision that suppression is complete.

Equipment and Suppression Techniques

Hand line firefighting equipment adequate for a minimum 20-man crew will be cached and sealed at the tank range. A second 20-man cache will be kept at the compound. The following equipment is required in each cache:

- 15 shovels
- 5 pulaskis
- 5 backpack water pumps

This equipment is to be maintained in a fire ready condition.

A fire capable tank truck of at least 200 gal., with pump and at least 200

feet of hose will be on site during all training exercises involving live firing or pyrotechniques.

Construction of fireline with heavy equipment will only be allowed in emergency conditions, where the fire has the potential to burn an excessive area or to cause significant resource damage. This decision will be the responsibility of the RCO or Fire Boss. The National Guard will be responsible for rehabilitation of soil disturbance resulting from the use of heavy equipment in fire suppression. Disturbed areas will be returned to near natural conditions before the following November 1. Headwaters R.A. staff will determine suitable rehabilitation techniques.

Existing trails and roadways and natural barriers will be utilized as firebreaks whenever feasible.

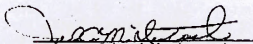
Pyrotechniques, tracer, and illumination rounds will be limited to the tank range during periods of high, very high, or extreme fire danger ratings.

Tracers will not be used during daylight hours when the fire danger rating is high, very high, or extreme.

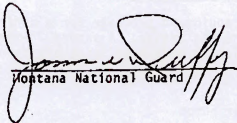
This wildfire suppression plan may be amended at any time when agreed to by both the BLM and the National Guard.

Copies of this plan and any future amendments will be sent to and kept by the following parties:

Montana Army National Guard
The Helena Dispatch Center
The Butte Dispatch Center
Butte BLM District Office
BLM Headwaters Resource Area


Bureau of Land Management

5/16/85
Date


Montana National Guard

24 MAY 85
Date

**LIMESTONE HILLS
MULTI-PURPOSE TRAINING RANGE DUD SHEET**

These sheets will be completed by the range OIC or Safety in accordance with AR 75-1 and turned in to range control before area will be excepted for turn in.

DATE: _____

TIME: _____

WEATHER: _____

BASIC DATA

AMMO TYPE: LOT # _____ NSN # _____

PROPELLANT: LOT # _____ NSN # _____

PROPELLENT: LOT # _____ NSN # _____

FIRING DATA

CHARGE: _____

FUZE SETTING: _____

DEFLECTION: _____

ELEVATION: _____

EXPECTED RANGE: _____

FIRING TABLE USED: _____

PROJECTED IMPACT (8 digit): _____

OBSERVED IMPACT (8 digit from top): _____

FIRING PIECE DATA

FIRING LOCATION (8 digit grid): _____

WPN TYPE TO INCLUDE SERIAL #: _____

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APPENDIX E
MINERAL CLAIMS STATUS UNDER ALTERNATIVES 2 AND 3



CLAIM NAME	ACRES	STATUS (Batwings)	STATUS (No Wings)
SW-158	19.585	RESTRICTED	RESTRICTED
SW-156	19.585	RESTRICTED	RESTRICTED
SW-154	19.585	RESTRICTED	RESTRICTED
SW-152	19.585	RESTRICTED	RESTRICTED
SW-150	19.588	RESTRICTED	YES
SW-157	19.584	NO	NO
SW-155	19.584	RESTRICTED	RESTRICTED
SW-153	19.584	RESTRICTED	RESTRICTED
SW-151	19.562	RESTRICTED	RESTRICTED
SW-149	19.568	YES	YES
SW-148	19.585	NO	NO
SW-146	19.585	RESTRICTED	RESTRICTED
SW-144	19.585	RESTRICTED	RESTRICTED
SW-142	19.584	RESTRICTED	RESTRICTED
SW-140	19.589	YES	YES
SW-147	19.585	NO	NO
SW-145	19.585	RESTRICTED	RESTRICTED
SW-143	19.585	RESTRICTED	RESTRICTED
SW-141	19.584	RESTRICTED	YES
SW-139	19.591	RESTRICTED	YES
SW-134	19.584	RESTRICTED	RESTRICTED
SW-133	19.562	RESTRICTED	RESTRICTED
SW-132	19.562	RESTRICTED	YES
SW-131	19.589	RESTRICTED	YES
SW-129	19.585	RESTRICTED	RESTRICTED
SW-127	19.588	RESTRICTED	YES
SW-125	19.583	RESTRICTED	YES
SW-123	19.589	RESTRICTED	YES
SW-128	19.562	RESTRICTED	RESTRICTED
SW-126	19.568	RESTRICTED	YES
SW-124	19.586	RESTRICTED	YES
SW-122	19.590	RESTRICTED	YES
SW-130	20.376	NO	NO
SW-121	20.424	NO	NO
SW-119	20.424	RESTRICTED	YES
SW-117	20.429	RESTRICTED	YES
SW-120	20.665	NO	NO
SW-118	20.665	RESTRICTED	YES
SW-116	20.670	RESTRICTED	YES
SW-115	20.664	RESTRICTED	YES
SW-114	20.664	RESTRICTED	YES
SW-113	20.622	NO	NO
SW-111	20.622	RESTRICTED	YES
SW-109	20.632	RESTRICTED	YES
SW-107	20.622	RESTRICTED	YES
SW-105	20.622	RESTRICTED	YES
SW-94	20.622	YES	YES
SW-96	20.622	YES	YES
SW-100	20.632	RESTRICTED	YES
SW-102	20.622	RESTRICTED	YES

SW-98	20.622	YES	YES
SW-14	20.622	YES	YES
SW-57	20.664	YES	YES
SW-60	20.665	YES	YES
SW-58	20.664	YES	YES
SW-61	20.665	YES	YES
SW-62	20.664	YES	YES
SW-53	20.632	YES	YES
SW-63	20.664	YES	YES
SW-52	20.622	YES	YES
SW-59	20.670	YES	YES
SW-54	20.622	YES	YES
SW-65	20.665	YES	YES
SW-66	20.665	RESTRICTED	YES
SW-64	20.670	YES	YES
SW-48	20.632	YES	YES
SW-55	20.622	YES	YES
SW-51	20.622	YES	YES
SW-15	20.622	YES	YES
SW-50	20.622	YES	YES
SW-49	20.622	YES	YES
SW-92	20.622	YES	YES
SW-22	20.632	YES	YES
SW-36	20.632	YES	YES
SW-33	20.622	YES	YES
SW-24	20.670	YES	YES
SW-44	20.665	YES	YES
SW-23	20.622	YES	YES
SW-43	20.665	YES	YES
SW-38	20.622	YES	YES
SW-37	20.622	YES	YES
SW-35	20.622	YES	YES
SW-39	20.665	YES	YES
SW-41	20.664	YES	YES
SW-12	20.664	YES	YES
SW-9	20.622	YES	YES
SW-40	20.664	YES	YES
SW-8	20.622	YES	YES
SW-34	20.622	YES	YES
SW-42	20.670	YES	YES
SW-11	20.664	YES	YES
SW-25	20.665	YES	YES
SW-20	20.665	YES	YES
SW-5A	20.622	YES	YES
SW-17	20.622	YES	YES
SW-6A	20.622	YES	YES
SW-29	20.664	YES	YES
SW-30	20.670	YES	YES
SW-19	20.665	YES	YES
SW-5	20.664	YES	YES
SW-32	20.665	YES	YES

SW-26	20.632	YES	YES
SW-16	20.622	YES	YES
SW-27	20.622	YES	YES
SW-21	20.664	YES	YES
SW-18	20.670	YES	YES
SW-31	20.665	YES	YES
SW-3	20.622	YES	YES
SW-6	20.664	YES	YES
SW-1	20.632	YES	YES
SW-2	20.622	YES	YES
SW-28	20.622	YES	YES
SW-82	20.622	NO	NO
SW-85	20.622	NO	NO
SW-83	20.665	NO	NO
SW-86	20.665	NO	NO
SW-73	20.622	NO	NO
SW-88	20.665	YES	YES
SW-80	20.670	NO	NO
SW-70	20.622	YES	YES
SW-77	20.664	NO	NO
SW-76	20.622	NO	NO
SW-79	20.632	NO	NO
SW-74	20.664	NO	NO
SW-67	20.622	YES	YES
SW-71	20.665	YES	YES
SW-72	20.622	NO	NO
SW-78	20.632	NO	NO
SW-69	20.622	YES	YES
SW-75	20.622	NO	NO
SW-84	20.622	NO	NO
SW-47	20.622	YES	YES
SW-81	20.622	NO	NO
SW-65	20.622	YES	YES
SW-89	20.622	YES	YES
SW-87	20.622	YES	YES
SW-88	20.622	YES	YES
SW-103	20.622	RESTRICTED	YES
SW-108	20.670	RESTRICTED	YES
SW-95	20.622	YES	YES
SW-112	20.665	NO	NO
SW-110	20.665	RESTRICTED	YES
SW-97	20.622	RESTRICTED	YES
SW-99	20.622	RESTRICTED	YES
SW-101	20.632	RESTRICTED	YES
SW-104	20.664	RESTRICTED	YES
SW-106	20.664	RESTRICTED	YES
SW-93	20.622	YES	YES
SW-91	20.622	YES	YES
SW-56	20.664	YES	YES
SW-13	20.664	YES	YES
SW-10	20.664	YES	YES

SW-7	20.664	YES	YES
SW-4	20.664	YES	YES
WS-6	20.664	RESTRICTED	YES
WS-5	20.664	RESTRICTED	YES
WS-4	20.664	RESTRICTED	YES
WS-34	20.664	YES	YES
WS-3	20.664	YES	YES
WS-35	20.664	YES	YES
WS-2	20.664	YES	YES
WS-36	20.664	YES	YES
WS-1	20.664	YES	YES
WS-37	20.664	YES	YES
WS-7	20.664	YES	YES
WS-8	20.664	RESTRICTED	RESTRICTED
WS-9	20.664	RESTRICTED	RESTRICTED
WS-10	20.664	RESTRICTED	RESTRICTED
WS-11	20.664	RESTRICTED	RESTRICTED
WS-12	20.664	RESTRICTED	RESTRICTED
WS-25	20.664	YES	YES
WS-13	20.664	YES	YES
WS-14	20.664	RESTRICTED	RESTRICTED
WS-15	20.664	RESTRICTED	RESTRICTED
WS-16	20.664	RESTRICTED	RESTRICTED
WS-17	20.664	RESTRICTED	RESTRICTED
WS-18	20.664	RESTRICTED	RESTRICTED
WS-24	20.664	YES	YES
WS-19	20.664	YES	YES
WS-20	20.664	YES	YES
WS-21	20.664	YES	YES
WS-22	20.664	RESTRICTED	RESTRICTED
WS-23	20.664	RESTRICTED	RESTRICTED
WS-27	20.664	RESTRICTED	RESTRICTED

CLAIM NAME	STATUS (Batwings)	STATUS (No Wings)
SWP 164	YES	YES
SWP 163	YES	YES
SWP 161	YES	YES
SWP 162	YES	YES
SWP 4A	YES	YES
SWP 4	YES	YES
SWP 5	YES	YES
SWP 40	YES	YES
SWP 31	YES	YES
SWP 32	YES	YES
SWP 61	YES	YES
SWP 93	NO	NO
SWP 99	NO	NO
SWP 7A	YES	YES
SWP 7	YES	YES
SWP 8	YES	YES
SWP 41	YES	YES
SWP 33	YES	YES
SWP 34	YES	YES
SWP 62	YES	YES
SWP 94	NO	NO
SWP 100	NO	NO
SWP 10	YES	YES
SWP 11	YES	YES
SWP 42	YES	YES
SWP 35	YES	YES
SWP 36	YES	YES
SWP 59	YES	YES
SWP 89	YES	YES
SWP 95	NO	NO
SWP 101	NO	NO
SWP 12	YES	YES
SWP 13	YES	YES
SWP 43	YES	YES
SWP 37	YES	YES
SWP 38	YES	YES
SWP 60	YES	YES
SWP90	NO	NO
SWP 96	NO	NO
SWP 102	NO	NO
SWP 15	YES	YES
SWP 16	YES	YES
SWP 39	YES	YES
SWP 44	YES	YES
SWP45	YES	YES
SWP87	YES	YES
SWP 91	NO	NO
SWP 97	NO	NO
SWP 103	NO	NO
SWP 17	YES	YES
SWP 18	YES	YES

SWP 46	YES	YES
SWP 47	YES	YES
SWP 48	YES	YES
SWP 88	YES	YES
SWP 92	NO	NO
SWP 98	NO	NO
SWP 104	NO	NO
SWP 19	YES	YES
SWP 20	YES	YES
SWP 21	YES	YES
SWP 49	YES	YES
SWP 50	YES	YES
SWP 57	YES	YES
SWP 117	YES	YES
SWP 131	NO	NO
SWP 145	NO	NO
SWP 157	NO	NO
SWP 22	YES	YES
SWP 23	YES	YES
SWP 24	YES	YES
SWP 51	YES	YES
SWP 52	YES	YES
SWP 58	YES	YES
SWP 118	YES	YES
SWP 132	NO	NO
SWP 146	NO	NO
SWP 158	NO	NO
SWP 25	YES	YES
SWP 26	YES	YES
SWP 27	YES	YES
SWP 53	YES	YES
SWP 54	YES	YES
SWP 105	YES	YES
SWP 119	NO	NO
SWP 133	NO	NO
SWP 147	NO	NO
SWP 159	NO	NO
SWP 28	YES	YES
SWP 29	YES	YES
SWP 30	YES	YES
SWP 55	YES	YES
SWP 56	YES	YES
SWP 106	YES	YES
SWP 120	NO	NO
SWP 134	NO	NO
SWP 148	NO	NO
SWP 160	NO	NO
SWP 63	YES	YES
SWP 69	YES	YES
SWP 75	YES	YES
SWP 81	YES	YES
SWP 107	NO	NO

SWP 121	NO	NO
SWP 135	NO	NO
SWP 149	NO	NO
SWP 64	YES	YES
SWP 70	YES	YES
SWP 76	YES	YES
SWP 82	YES	YES
SWP 108	NO	NO
SWP 122	NO	NO
SWP 136	NO	NO
SWP 150	NO	NO
SWP 65	YES	YES
SWP 71	YES	YES
SWP 77	YES	YES
SWP 83	NO	NO
SWP 109	NO	NO
SWP 123	NO	NO
SWP 137	NO	NO
SWP 151	NO	NO
SWP 66	YES	YES
SWP 72	YES	YES
SWP 78	RESTRICTED	YES
SWP 84	NO	NO
SWP 110	NO	NO
SWP 124	NO	NO
SWP 138	NO	NO
SWP 152	NO	NO
SWP 67	YES	YES
SWP 73	YES	YES
SWP 75	RESTRICTED	YES
SWP 85	NO	NO
SWP 111	NO	NO
SWP 125	NO	NO
SWP 139	NO	NO
SWP 153	NO	NO
SWP 68	YES	YES
SWP 74	RESTRICTED	YES
SWP 80	RESTRICTED	YES
SWP 86	NO	NO
SWP 112	NO	NO
SWP 126	NO	NO
SWP 140	NO	NO
SWP 154	NO	NO
SWP 113	NO	NO
SWP 127	NO	NO
SWP 141	NO	NO
SWP 155	NO	NO
SWP 114	NO	NO
SWP 128	NO	NO
SWP 142	NO	NO
SWP 156	NO	NO
SWP 115	NO	NO

SWP 129	NO	NO
SWP 143	NO	NO
SWP 116	NO	NO
SWP 130	NO	NO
SWP 144	NO	NO
SWP 165	YES	YES

APPENDIX F
MEMORANDUM OF AGREEMENT BETWEEN BLM,
MTARNG, AND GRAYMONT



**Memorandum of Agreement
Between
Montana Army National Guard
And
Graymont Western US Inc
And
Bureau of Land Management**

Subject: Compatible Joint Use at Limestone Hills

- 1. Purpose.** This Memorandum of Agreement (MOA) sets forth the policies and procedures agreed to by the Montana Army National Guard (MTARNG) regarding military training activities; Graymont Western US Inc. (Graymont) regarding exploration, development, mining and reclamation activities; and the Bureau of Land Management (BLM) regarding its administration of the public land laws to allow for the joint and compatible use of Federal lands in the Limestone Hills Training Area, (LHTA) Broadwater County, Montana. The MTARNG is in the process of obtaining a Congressionally authorized withdrawal of the BLM lands within the LHTA.. The joint use practices set forth in this MOA are independent of possible authorizing legislation for the proposed withdrawal.
- 2. Respective Interests.** The MTARNG uses the LHTA to accomplish its operational mission to train and prepare soldiers. Graymont uses the lands in the area of the LHTA to accomplish its mission to supply Graymont's limestone and quicklime markets throughout the West. The BLM has the management responsibility for the minerals program in the Limestone Hills.
- 3. Challenge.** Graymont's continued expansion of mining operations within the area of its currently approved plan of operations and its foreseeable expansion of mining activities onto Graymont's mining claims both south and east of the area of its currently approved plan of operations could impinge on military training activities unless a proactive agreement is reached which implements policies and procedures designed to insure safe and effective compatible usage of the LHTA for both mining and military training activities.
- 4. Scope.** The area covered by this MOA consists of those lands located in the LHTA, west of Old Woman's grave road. (See attached figure.) The MOA is effective upon the signature date below. The MOA shall be reviewed and renewed every five years minimum. A party may request an update at anytime.

5. Agreement

A. MTARNG:

- 1) Will notify Graymont and BLM of the MTARNG yearly training calendar in January of each year. The calendar will include all LHTA uses including weekday, weekend and annual training activities.
- 2) Will conduct weekday and weekend training primarily Thursday to Sunday and will notify Graymont 90 days in advance of changes to the training calendar provided in January.
- 3) Will conduct annual training within the weeks stated in the training calendar provided in January unless Graymont is notified 90 days in advance of any changes.
- 4) Will conduct active training from the second Monday of April to 30 November each year. Graymont and BLM will be notified 90 days in advance of any active training outside those dates. A MTARNG presence will remain in the area beyond the active training dates for minor maintenance and construction activities.
- 5) Will, within 90 days of a written request by Graymont, establish a plan to clear roads and drill pad areas needed for exploration of Unexploded Ordnance (UXO). The MTARNG will seek written confirmation from BLM that such clearance plan is adequate to obtain BLM authorization for mining exploration activities.
- 6) Will compensate Graymont in accordance with the terms of the BLM granted Right-of-Way for damage to any mining equipment or facility caused by military training activities.
- 7) Will update military maps and GIS data layers to reflect the actual Active Impact Area and provide copies of any updated military maps and GIS data layers to Graymont and BLM no less frequently than annually.
- 8) Will maintain field targets to the east and current Surface Danger Zones (SDZ) that allow, so far as possible, to eliminate overlap of the SDZs onto mining claims proposed for mining related activities.
- 9) Will conduct and adjust UXO clearance activities to meet Graymont mining priorities.
- 10) Will not conduct training activities within the LHTA so as to preclude Graymont from operating its current crushing and processing plants at any time, or from conducting mining and mining related activities within agreed areas of its mining claims for a continuous period in excess of three weeks without a recess of two weeks or for a cumulative period of more than 16 weeks per year without Graymont permission. The agreed areas must allow Graymont access to other areas with stone suitable to maintain their operations.

B. Graymont:

- 1) Will notify MTARNG of any additional mining claims located within the LHTA within 90 days of the date of location of the claims.
- 2) Will process claims for damage to any military equipment or facility caused by mining activity.
- 3) Will give priority usage of SDZ's to MTARNG for scheduled annual training.
- 4) Will notify MTARNG 90 days in advance, if UXO clearance priorities need to be adjusted.

C. BLM:

- 1) Will administer the existing MTARNG Right-of-Way covering the LHTA and Graymont's approval Plan of Operations in accordance with their respective terms.
- 2) Will review the posting of signs around the LHTA to ensure appropriate language is used based upon the agreed upon multiple use and safety issues.
- 3) Will process any future amendments to Graymont's Plan of Operations as submitted in accordance with applicable laws and regulations.
- 4) Will have management responsibility for the minerals program in the LHTA.

D. MTARNG, Graymont and BLM:

- 1) Will meet in January of each year prior to active training to exchange annual schedules and UXO clearance priorities and discuss scheduling of activities. Representatives will meet informally thereafter to coordinate any schedule changes.
- 2) Will meet on an "as needed" basis to negotiate compatible usage if future changes in missions, policies or procedures for either party change significantly.
- 3) Share the desire to conduct their respective operations in the Limestone Hills in a safe and efficient manner. In order to do so, they agree to maintain existing physical barriers, if any, as much as missions, mining plans, policies and procedures allow.

6. **Procedures.** The following documents describe existing practices and contain additional procedures related to operational safety and joint usage of the LHTA. A copy of the documents, labeled Appendixes A-F is incorporated into this MOA for informational purposes by this reference. Current best practice for joint usage is presumed if both parties are conducting their operations in accordance with the practices and procedures contained in these documents. This should not be considered an all-inclusive list of procedures. Future procedures may develop that will be considered for implementation by the parties. Safety issues will be addressed immediately as they arise by direct communication between the parties as hereinafter provided.

List of Appendices:

- A. Statement of Consensus, December 1997
- B. Graymont Western US INC, Operating and Reclamation Plan, Indian Creek Mine and Plant, 2001 – Update, pp 39-40, *Land Use Agreement Between Graymont Western US Inc. and Montana Army National Guard*
- C. *Memorandum of Record*, MTARNG Training Site, Included in internal SOP Appendix I, Chapter 4 Conduct of Operation, Chapter 9 Safety Document
- D. Graymont Western US INC, Operating and Reclamation Plan, Indian Creek Mine and Plant, 2001 – Update, p 55, *Public Safety*
- E. State of Montana Department of Military Affairs, *Limestone Hills Area Grid Surveying Activities: Safety, Health, and Emergency Response Plan*, March 17, 2002
- F. United States Department of Interior, Bureau of Land Management, *Decision Right-of-Way Granted*, March 26 1984

7. **Governing Law.** Each party shall comply with all applicable State and Federal laws and regulations that govern their activities. Nothing contained in this MOA shall alter the rights or the responsibilities of the MTARNG, Graymont, and the BLM. This MOA shall not be construed as limiting or affecting in any way the vested or delegated authority of a party.

8. **Consequence of Procedure Failure.** If a party believes that another party has failed to follow the procedures set out in this MOA or is otherwise not in compliance with the terms of this MOA, then it agrees to first provide notice of such circumstance to the other party at the address for notice as provided in this MOA. The parties agree to cooperate in the resolution of such circumstance in so far as practical under the situation as it exists. In the event a party believes this MOA contains flawed procedures or is otherwise in need of amendment, it will so notify the other parties.

9. **Notice.** In order to insure proper notice is received by the parties any formal notice under the MOA should be addressed as follows:

MTARNG

Name: COL Allan Stricker
Address: PO Box 4789
Helena, MT 59604-4789
Telephone: (406) 324-3101
Facsimile: (406) 324-3082
E-mail: allan.stricker@mt.ngb.army.mil

Graymont

Name: Mike Brown
Address: 3950 South 700 East, Suite 301
Salt Lake City, Utah 84107
Telephone: 801-262-3942
Facsimile: 801-231-2962
E-mail: mbrown@graymont-ut.com

BLM

Name: Rick Hotaling, Field Manager
Address: Bureau of Land Management
Butte Field Office
106 North Parkmont
Butte, Montana 59701
Telephone: (406)896-5000

Informal correspondence, safety concerns and day-to-day operational communication should be addressed as follows:

MTARNG

Name: MAJ Lonnie Cook
Address: PO Box 4789
Helena, MT 59604-4789
Telephone: (406) 324-3350
Facsimile: (406) 324-3358
E-mail: lonnie.cook@mt.ngb.army.mil

GRAYMONT

Name: Elton Chorney
Address: P.O. Box 550
Townsend, MT 59644
Telephone: 406-266-5221
E-mail: echorney@graymont-mt.com

BLM

Name: Steven Hartmann
Address: Butte Field Office
106 North Parkmont
Butte, MT 59701
Telephone: 406-533-7600
E-mail: Steven.Hartmann@blm.gov

Either party may change the person to receive notice or the notice address by written notice to the other party.

10. Dispute Resolution.

A. Upon written notice of a failure to follow the procedures set out in this MOA or written notice of any other matter considered to be a dispute between the parties, designated representatives for the MTARNG, Graymont, and the BLM will make all reasonable efforts to informally resolve the dispute.

B. The parties agree to use their mutual best efforts to meet to resolve the dispute within 15 days of receipt of a written notice of the existence of the dispute.

C. The parties do not anticipate that any dispute will arise regarding either the terms of, or duties owed under this MOA. However, in the event that some point of dispute does arise between BLM, Graymont and/or MTARNG regarding performance under this MOA, BLM, Graymont and MTARNG agree that they may elect to submit the disputed matter to mediation prior to the pursuit of any other available legal recourse with the cost of such mediation to be shared equally by the parties. The parties will mutually agree upon a single mediator for this purpose.

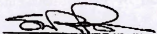
11. Termination. A party may terminate this MOA upon 90 days written notice.

12. **Severability/Entire Agreement.** If any provision of this MOA is held to be illegal or void, the validity of the remaining terms shall not be affected. This MOA contains the entire agreement between the parties. Any statements, promises, or inducements made by a party, or agents of a party, which are not contained in this MOA, shall not be valid or binding. This MOA shall not be enlarged, modified, or altered except upon written agreement signed by the parties to this MOA.

13. **Acknowledgment.** The parties acknowledge that this MOA is of mutual benefit. The parties acknowledge that, if the terms of this MOA are followed, mining and military training activities can continue to co-exist within the area of the Limestone Hills.

14. **Effective Date.** This MOA is in effect upon final signing and dating of the document and it may be executed in counterparts.

Signatures



Stanley R. Putnam
COL(P), MTARNG
Assistant Adjutant General

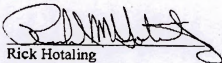
2 Feb 05

Date



Mike Brown
Vice President
Graymont Western US Inc

11 Feb 05
Date



Rick Hotaling
Field Manager
BLM-Butte Office

2-14-05

Date

Figures

- A. Map of Limestone Hills Training Area with MTARNG and Graymont Activity Overlay.

Appendices

- A. Statement of Consensus, December 1997
B. Graymont Western US INC, Operating and Reclamation Plan, Indian Creek Mine and Plant, 2001 - Update, pp 39-40, *Land Use Agreement Between Graymont Western US Inc. and Montana Army National Guard*
C. *Memorandum of Record*, MTARNG Training Site, Included in internal SOP Appendix I, Chapter 4 Conduct of Operation, Chapter 9 Safety Document
D. Graymont Western US INC, Operating and Reclamation Plan, Indian Creek Mine and Plant, 2001 - Update, p 55, *Public Safety*
E. State of Montana Department of Military Affairs, *Limestone Hills Area Grid Surveying Activities: Safety, Health, and Emergency Response Plan*, March 17, 2002
F. United States Department of Interior, Bureau of Land Management, *Decision Right-of-Way Granted*, March 26 1984

Limestone Hills Training Area Military Training Ranges

Campground

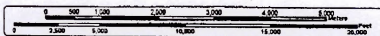
Old Woman's
Grave Road

Townsend

Active
Training Area

SOZ #1

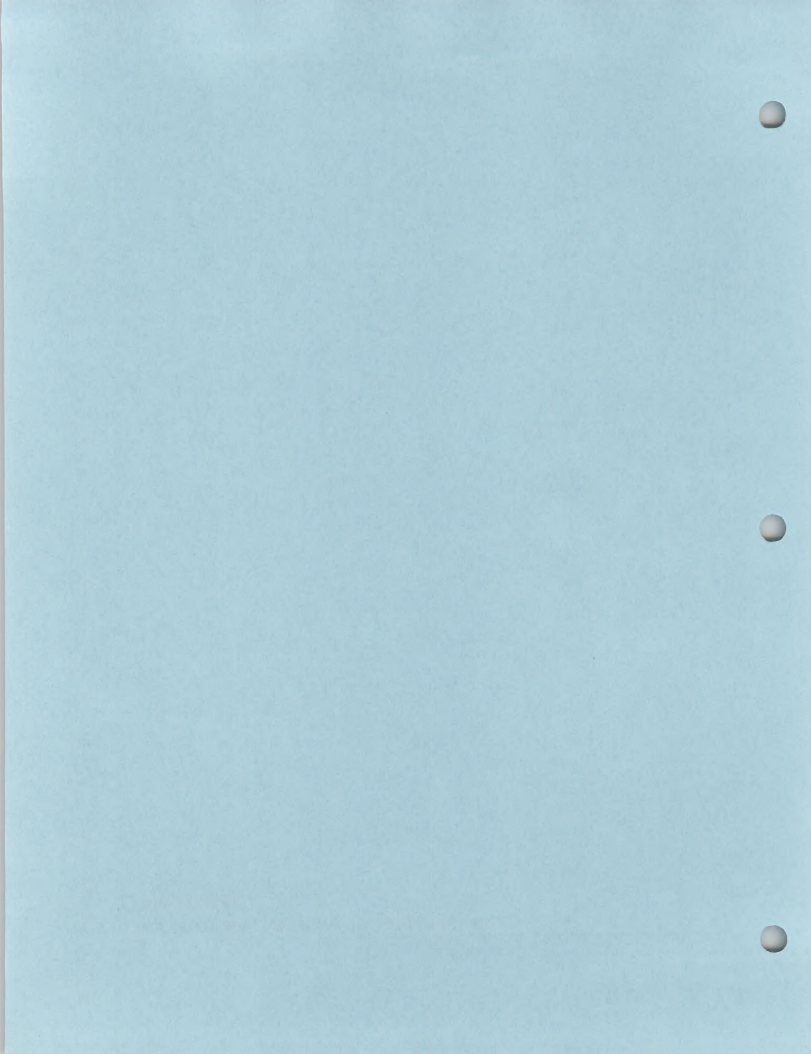
Map Prepared by
Steve Padden
Limestone Environmental Office
PHS 134-2088
20 Aug 04



- ⊕ Tank FPs
- ⊙ Tank Targets
- ⊕ Mortar FPs
- ⊕ M1-Abrams 120mm SOZ
- ⊕ Bradley 25mm SOZ
- ⊕ Fire & Movement 7.62 SOZ
- ⊕ MK19 SOZ
- ⊕ 60 Cal SOZ
- ⊕ Planned QTR Range
- ⊕ Proposed IBBC
- ⊕ Impact Area
- ⊕ Old Woman's Grave Rd
- ⊕ Graymont Mine Claims ALL
- ⊕ Graymont Western Permit
- ⊕ Limestone Hills TA
- ⊕ Proposed Withdrawal



APPENDIX G
CORRESPONDENCE WITH OTHER AGENCIES





WESTECH

Environmental Services, Inc.

June 7, 2004

Mr. Mark Wilson, Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services
Montana Field Office
100 North Park, Suite 320
Helena, MT 59601

Dear Mr. Wilson:

The Montana Army National Guard (MTARNG), in cooperation with the Bureau of Land Management (BLM), is preparing an application to temporarily withdraw the Limestone Hills Training Area (LHTA) in Broadwater County, Montana from administrative jurisdiction of the BLM to that of the MTARNG. The MTARNG has begun the environmental impact analysis to evaluate the impacts of the withdrawal. The analysis will be in accordance with the National Environmental Policy Act (NEPA) and the Engle Act, which requires congressional approval of the proposed withdrawal. The impact analysis will therefore be a Legislative Environmental Impact Statement (LEIS). More detailed information about the proposed withdrawal, including location maps, is available at <http://www.limestonehillswithdrawal.com>.

Tetra Tech EM Inc. (TTEMI) has been retained by the MTARNG to prepare the LEIS. In turn, TTEMI has subcontracted my firm, WESTECH Environmental Services, Inc. (WESTECH) to prepare the vegetation and wildlife portions of the LEIS.

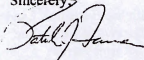
The LHTA has been addressed by a number of planning documents, most recently the *Integrated Natural Resources Management Plan and Environmental Assessment 2002-2006*, released by the MTARNG Environmental Office in 2001. The U.S. Fish and Wildlife Service (USFWS) was a cooperator in the preparation of the *Integrated Natural Resources Management Plan* (INRMP). The INRMP reported that no Federally listed or proposed species are known to be present in the LHTA. The USFWS, in a letter dated June 21, 2001, reviewed the INRMP under authority of Section 7(c) of the Endangered Species Act (ESA), and concurred with the determination that implementation of the INRMP would not adversely affect Federally listed or proposed threatened or endangered species of their critical habitat.

Please advise me regarding:

1. Given that the LEIS would address an administrative action, that the LEIS is being prepared within the timeframe (2002-2006) of the INRMP, and that the USFWS concurred that implementation of the INRMP would not adversely affect Federally listed or proposed threatened or endangered species of their critical habitat, is a separate Biological Assessment (BA) required for the LEIS?
2. If a separate BA is required for the LEIS, in accordance with Section 7(c) of the ESA, please consider this letter to be a request for a list of fish, wildlife or vegetation species listed or proposed to be listed as endangered or threatened in the vicinity of the proposed project, that would need to be addressed in the BA.

If you have any questions about the project, please give me a call or e-mail me at pfarmer@westech-environmental.com . Thank you.

Sincerely,



Patrick J. Farmer

Cc: Alice Stanley (TTEMI)
Sundi West (MTARNG)



July 13, 2004

WESTECH

Environmental Services, Inc.

Ms. Sundi West
Natural and Cultural Team Leader
Montana Army National Guard
Environmental Office
P.O. Box 4789
Helena, MT 59624

Ms. Sarah LaMarr
Wildlife Biologist
U.S. Department of the Interior
Bureau of Land Management
106 North Parkmont
Butte, MT 69701

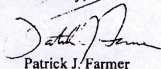
Ms. Alice Stanley
Project Manager
Tetra Tech EM Inc.
7 West 6th Ave., Suite 612
Helena, MT 59601

Dear Sundi, Sarah and Alice:

Attached for your files is a copy of a letter I received last Friday from the USFWS, determining that no further T&E species consultation is necessary for the Limestone Hills withdrawal LEIS. This means that a Biological Assessment (BA) will not have to be written for the LEIS, at least not at this time.

If you have any questions, please give me a call. Thank you.

Sincerely,



Patrick J. Farmer



1. The purpose of this document is to provide a clear and concise summary of the project's objectives, scope, and timeline. This document will serve as a reference for all project-related activities and ensure that all team members are aligned on the project's goals and expectations.

2. The project is a multi-phase initiative that will involve the development, implementation, and evaluation of a new system. The project is expected to be completed within a 12-month timeline, with a final report to be submitted at the end of the project.

3. The project is a high-priority initiative that will require the full attention and commitment of all team members. The project is expected to be completed within a 12-month timeline, with a final report to be submitted at the end of the project.

4. The project is a high-priority initiative that will require the full attention and commitment of all team members. The project is expected to be completed within a 12-month timeline, with a final report to be submitted at the end of the project.

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7. The project is a high-priority initiative that will require the full attention and commitment of all team members. The project is expected to be completed within a 12-month timeline, with a final report to be submitted at the end of the project.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

MONTANA FIELD OFFICE
100 N. PARK, SUITE 320
HELENA, MT 59601
PHONE (406) 449-5225, FAX (406) 449-5339

File: M. 29 Public (I)
Limestone Hills

July 7, 2004

Patrick J. Farmer
Westech Environmental Services, Inc.
P.O. Box 6045
3005 Airport Road
Helena, Montana 59604

Dear Mr. Farmer:

This letter is in response to your request regarding the effect of the Limestone Hills Training Area (LHTA) proposed administrative jurisdiction change in Broadwater County, Montana on federally-listed species. We received your request on June 8, 2004.

It is our understanding that the Bureau of Land Management would transfer temporary jurisdiction of the LHTA to the Montana Army National Guard. The Montana Army National Guard would continue implementation of the 2001 LHTA Integrated Natural Resources Management Plan.

Our records indicate that there are no federally-listed species, proposed species, or designated critical habitat in the Limestone Hills Training Area; therefore, the U.S. Fish and Wildlife Service (Service) anticipates that no federally-listed species or their habitats would be impacted by the proposed action. No further consultation with the Service is necessary at this time.

If you require additional information, please contact Beth Dickerson of this office at 406-449-5225 extension 223. Thank you for considering threatened and endangered species in your project plan.

Sincerely,

R. Mark Wilson
Field Supervisor

REPORT OF THE BOARD OF DIRECTORS

FOR THE YEAR ENDING 1967

THE BOARD OF DIRECTORS OF THE
COMPANY HAS THE HONOR TO
PRESENT TO YOU THE ANNUAL
REPORT OF THE COMPANY FOR THE
YEAR ENDING 1967.

FINANCIAL SUMMARY

THE FOLLOWING SUMMARY OF
THE COMPANY'S FINANCIAL
PERFORMANCE FOR THE YEAR
ENDING 1967 IS PRESENTED
FOR YOUR INFORMATION.

REVENUE FROM SALES OF
PRODUCTS AND SERVICES
FOR THE YEAR ENDING
1967 WAS \$1,234,567,
AS COMPARED WITH \$1,123,456
FOR THE YEAR ENDING 1966.

NET INCOME FOR THE YEAR

ENDING 1967 WAS \$234,567, AS COMPARED WITH \$212,345 FOR THE YEAR
ENDING 1966. THIS INCREASE WAS DUE TO AN INCREASE IN REVENUE
FROM SALES OF PRODUCTS AND SERVICES, AND TO A DECREASE IN
EXPENSES FOR DEPRECIATION AND AMORTIZATION.

THE COMPANY'S FINANCIAL POSITION AT THE END OF THE YEAR
ENDING 1967 WAS STRONG, WITH TOTAL ASSETS OF \$3,456,789,
AS COMPARED WITH \$3,234,567 AT THE END OF THE YEAR
ENDING 1966. THIS INCREASE WAS DUE TO AN INCREASE IN
CURRENT ASSETS, AND TO A DECREASE IN LIABILITIES.

THE COMPANY'S FINANCIAL POSITION AT THE END OF THE YEAR
ENDING 1967 WAS STRONG, WITH TOTAL ASSETS OF \$3,456,789,
AS COMPARED WITH \$3,234,567 AT THE END OF THE YEAR
ENDING 1966. THIS INCREASE WAS DUE TO AN INCREASE IN
CURRENT ASSETS, AND TO A DECREASE IN LIABILITIES.

THE COMPANY'S FINANCIAL POSITION AT THE END OF THE YEAR
ENDING 1967 WAS STRONG, WITH TOTAL ASSETS OF \$3,456,789,
AS COMPARED WITH \$3,234,567 AT THE END OF THE YEAR
ENDING 1966. THIS INCREASE WAS DUE TO AN INCREASE IN
CURRENT ASSETS, AND TO A DECREASE IN LIABILITIES.

CONCLUSION

THE BOARD OF DIRECTORS
OF THE COMPANY HAS THE
HONOR TO PRESENT TO YOU
THE ANNUAL REPORT OF THE
COMPANY FOR THE YEAR
ENDING 1967.

September 18, 2003

Assiniboine & Sioux Tribes
Fort Peck Tribal Executive Board
Mr. Arlyn Headdress, Chair
P.O. Box 306
Fort Hall, ID 83202-0306

RE: Invitation to Participate as a Cooperating Agency

Dear Chairman Headdress,

The Montana Army National Guard (MTARNG) on behalf of the Department of the Army is initiating a legislative environmental impact statement (LEIS) addressing the proposed withdrawal of the Limestone Hills Training Area (LHTA). Under the withdrawal, the jurisdiction of 20,460 acres of federally owned land within the LHTA would be transferred from the Bureau of Land Management (BLM) to the Department of the Army for continued training use by the MTARNG. The LHTA is located approximately 23 miles south of Helena, Montana and 2 miles west of Townsend and encloses some private and state-owned in-holdings. The property is presently managed by the BLM and has been under lease to the MTARNG for military training since the late 1950s. The public land is also used for grazing, mining, recreation, transportation, utility right-of-ways, and wildlife management.

I am inviting the Assiniboine & Sioux Tribes to partner with us in a cooperating agency relationship as we begin the NEPA evaluation of the proposed LHTA Land Withdrawal. The Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508) emphasizes the use of such arrangements as a means of assuring timely coordination among Federal agencies, State, Tribal, and local governments in preparation of NEPA analyses and documentation. We wish to seize every opportunity to work together in a cooperating agency relationship where a State, Tribal, or local government has decision making authority or special expertise that can enhance and enrich the MTARNG NEPA evaluation efforts.

A Notice of Intent to initiate the NEPA process was published in the Federal Register September 4, 2003. The initial scoping period will end November 4, however scoping in the form of stakeholder collaboration activities to define alternatives is planned to extend until February 2004. We expect a draft EIS to be completed late 2004. Stakeholder collaboration will take place throughout the NEPA process in the form of meetings, public information presentations, and public website interaction.

The MTARNG and BLM are sponsoring initial open house/scoping meetings September 29 in Helena, and 30th in Butte. Once alternatives are developed, scoping meetings will be held again in February. These meetings will enable citizens to learn more about the

project; talk with local MTARNG and BLM representatives; receive an information sheet on the project; and submit oral or written comments, questions, issues, and concerns.

I have enclosed an informational sheet, which better defines a cooperating agency, their roles and responsibilities, and the process involved in becoming a cooperating agency. We would like the Assiniboine & Sioux Tribes to consider this opportunity to partner with us, if it is feasible for you. We will work with you to ensure that this is accomplished in a manner that follows the spirit of the guiding CEQ regulations. We expect your agency's involvement to entail only those areas under its jurisdiction or expertise and no direct writing or analysis would be necessary for the LEIS preparation. The activities we will take to maximize interagency cooperation may include the following:

1. Invite you to participate in scoping meetings and other public or stakeholder activities;
2. Consult with you on relevant technical studies that will be required for the project;
3. Organize joint file reviews with you;
4. Provide you with project information, including study results;
5. Request your review of relevant section of the Draft LEIS prior to its release for comment by the public and other agencies;
6. Encourage your agency to use the above documents to express your views on subjects within your jurisdiction or expertise; and
7. Include information in the project environmental documents that cooperation agencies need to discharge their NEPA responsibilities and any other requirements regarding jurisdictional approvals, permits, license, and/or clearances.

If the Assiniboine & Sioux Tribes cannot commit the staff or resources required of a cooperating agency, there will be other means for you to become more involved in our NEPA process. Please contact Ms. Sundi West, LHTA Land Withdrawal Project Manager, at Montana Army National Guard, Fort Harrison, PO Box 4789, Helena, MT 59604-4789; by telephone at (406) 324-3088; by email to Sundi.West@mt.ngb.army.mil, if you have questions concerning this endeavor or to inform the MTARNG of your preferred role in this process.

We look forward to working with you.

Sincerely,

JOHN E. PRENDERGAST,
Major General, Montana National Guard
The Adjutant General

Enclosures: Cooperating Agency Information Sheet (2 pp)
Map showing LHTA Land Withdrawal Area

Cooperating Agency Information Sheet

1. What is a "cooperating agency?"

A cooperating agency assists the lead Federal agency in developing an Environmental Assessment (EA) or Environmental Impact Statement (EIS). The CEQ regulations implementing NEPA define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA. See CEQ Regulations for Implementing NEPA, 40 CFR §1501.6. Any Federal, State, local, or Tribal government entity with such qualifications may become a cooperating agency on an EA or EIS by agreement with the lead Federal agency. For example, if a county has jurisdiction by law over some aspect of a proposed project of has special expertise, and wishes to assist in analyzing impacts, it may request cooperating agency designation from the lead Federal agency.

2. How are State, local or Tribal government entities designated as a cooperating agency?

The Department of the Army may invite State, local or Tribal government entities to participate as cooperating agencies, or a State, local or Tribal government entity may request that the Department of the Army grant cooperating agency status. In any case, the Federal lead agency with primary responsibility for preparing the EA or EIS would decide whether: 1) the local government entity meets the CEQ requirements for cooperating agency status (40 CFR §1501.6), and 2) designation is appropriate. More than one agency or government entity may be designated as a cooperating agency.

In addition, the Department of the Army may agree with a State, local or Tribal government entity that specific categories of activities are generally suitable for cooperating agency participation, based on the experience of the Federal agency and the State or local entity involved. However, specific designation of cooperating agency status will take place on a case-by-case basis. Memoranda of understanding or other agreement documents, which are discussed under item 5, play a useful role in specifically setting out the designated responsibilities of the lead Federal agency and each cooperating agency.

3. What are the responsibilities of a cooperating agency in the preparation of an EA or EIS?

A cooperating agency participates in the preparation of the EA or EIS by agreeing to:

- Assist in the NEPA analysis at the earliest possible time.
 - Participate in the scoping process, which helps define and frame the issues to be addressed in the NEPA document.
 - Develop information and prepare environmental analyses (upon request of the lead agency) for portions of the EA or EIS over which the cooperating agency has special expertise.
 - Contribute staff support and other resources at the lead agency's request to enhance the NEPA team's interdisciplinary capability.
-

- Share freely any information and data relevant to the NEPA analysis, thereby facilitating rational, fact-based decisionmaking.
- Rely on its own funds to support its participation in the EA or EIS.

In harmony with the goals of NEPA, participation by cooperating agencies promotes efficiency, cooperation, and disclosure to the public of all relevant information. Prior to the designation of a non-Federal entity as a cooperating agency, the Federal and non-Federal entities should discuss each other's expectations and responsibilities. All parties would thus be assured that any request by the lead Federal agency, pursuant to 40 CFR 1501.6 (b)(3), (4), and (5), could be met by the cooperating agency.

4. What are the limitations on the role of a non-Federal cooperating agency?

In becoming a cooperating agency, a State, local or Tribal governmental entity does not gain new authority. The Department of the Army retains the exclusive authority to make decisions on projects or programs for which it has responsibility by law.

For example, the Federal land management agency retains sole decisionmaking authority for the lands and resources it administers. Under the law, this authority cannot be delegated to a non-Federal government entity. Similarly, by becoming a cooperating agency, a non-Federal entity does not give up its authority to make decisions on issues over which it has legal jurisdiction.

The lead Federal agency retains decisionmaking authority over issues relating to the completion of the EA or EIS. That is so, because it is the Federal agency that is charged with carrying out the NEPA process under §102(2)(c) of NEPA. If parties find they cannot agree on issues related to the preparation of the EA or EIS, each will be free to proceed independently in order to meet respective schedules for rendering decisions.

5. How does the MTARNG formalize designation of a cooperating agency?

The MTARNG on behalf of the Department of the Army prepares a memorandum of understanding (MOU), letter, or other agreement document that sets forth the working relationship between the Federal agency and the State, local or Tribal government entity serving as a cooperating agency. This written agreement formally establishes the expectations, roles, and responsibilities of the parties involved. A single agreement may cover all project participants, or there may be separate agreements, as appropriate. MTARNG program staff can provide sample MOUs or other types of agreement documents. The appropriate Departmental legal counsel should be consulted before such agreements are executed.

Blackfeet Tribe

Mr. Jay St. Goddard, Chairman
P.O. Box 850
Browning, MT 59417

Chippewa Cree Tribal Council
Alvin Windy Boy
RR 1, Box 544
Box Elder, MT 59521

Crow Tribal Council

Carl Venne, Chairman
P.O. Box 159
Crow Agency, MT 59022

Gros Ventre & Assiniboine Tribes

Benjamin W. Speakthunder, Chairman...
Fort Belknap Community Council
Route 1, Box 66
Harlem, MT 59526

Assiniboine & Sioux Tribes

Mr. Arlyn Headdress, Chair
Fort Peck Tribal Executive Board
P.O. Box 1027
Poplar, MT 59255

Northern Cheyenne Tribal Council

Geri Small, Chairman
P.O. Box 128Lame Deer, MT 59043

***Confederated Salish Kootenai Tribes
Tribal Council***

Mr. Fred Matt, Chairman
Flathead Reservation
P.O. Box 278
Pablo, MT 59855

Nez Perce Tribal Executive Committee

Mr. Samuel Penny, Chairperson
P.O. Box 305
Lapwai, ID 83540-0305

Shoshone-Bannock Tribes

Of the Fort Hall Reservation of Idaho
Blaine Edmo, Chairperson
P.O. Box 306
Fort Hall, ID 83202-0306

1. The first step in the process of the development of a new product is the identification of a market need. This is often done through market research, which can be conducted in a variety of ways, including surveys, focus groups, and interviews with potential customers.

2. Once a market need has been identified, the next step is to develop a concept for the new product. This involves creating a detailed description of the product, including its features, benefits, and target market.

3. The third step is to conduct a feasibility study. This involves assessing the technical, financial, and market viability of the product concept. This is often done through a series of tests and experiments.

4. Once a feasibility study has been completed, the next step is to develop a business plan. This involves creating a detailed financial and marketing plan for the new product, including a budget, sales forecast, and marketing strategy.

5. The final step in the process is to launch the new product. This involves creating a marketing campaign to promote the product, and then distributing the product to the target market.

6. Once the product has been launched, the next step is to monitor its performance. This involves tracking sales, customer feedback, and market trends to ensure the product is meeting its goals.

7. Finally, the product may be revised or improved based on customer feedback and market trends. This is often done through a process of continuous improvement, which involves regularly reviewing the product and making changes as needed.

8. The process of developing a new product is a complex one, and it often takes a long time to complete. However, by following these steps, you can increase your chances of creating a successful new product.

9. The process of developing a new product is a complex one, and it often takes a long time to complete. However, by following these steps, you can increase your chances of creating a successful new product.

OCT 22, 2003

BROADWATER COUNTY

Board of County Commissioners

Office 406-266-9201, Fax 406-266-3674

515 BROADWAY

TOWNSEND, MONTANA 59644

COMMISSIONERS:
James V. Hohn - Chairman
Steven R. McCullough
Elaine M. Mann



October 22, 2003

Sundi E. West
Natural & Cultural Resources Manager
PO Box 4789
Helena, MT 59604

Subject: Limestone Hills withdrawal

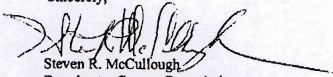
Dear Sundi:

Attached is a letter from the United States Department of the Interior, Bureau of Land Management, Butte field Office. Regarding, the Limestone Hills withdrawal and the payment in lieu of taxes issue.

During our October 20th Commissioners meeting we decided that a one-time payment of 1 million dollars as mitigation for the loss of PILT in Broadwater County would be the best way to compensate our County's economic impact.

Please feel free to contact me on 266-9201 if you have any questions.

Sincerely,



Steven R. McCullough
Broadwater County Commissioner

:mg



MEMORANDUM FOR THE PRESIDENT

1. The following information was received from the

Director of Central Intelligence on 10/10/61.

2. The information was received from the

Director of Central Intelligence.

3. The information was received from the

Director of Central Intelligence on 10/10/61.

4. The information was received from the

Director of Central Intelligence.

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Director of Central Intelligence.

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7. The information was received from the Director of Central Intelligence on 10/10/61. The information was received from the Director of Central Intelligence on 10/10/61. The information was received from the Director of Central Intelligence on 10/10/61.

8. The information was received from the Director of Central Intelligence on 10/10/61. The information was received from the Director of Central Intelligence on 10/10/61. The information was received from the Director of Central Intelligence on 10/10/61.

9. The information was received from the

Director of Central Intelligence.

10. The information was received from the

BROADWATER COUNTY
Board of County Commissioners

Office 406-266-9203, Fax 406-266-9276

515 BROADWAY

TOWNSEND, MONTANA 59644

COMMISSIONERS:

James V. Hohn - Chairman

Steven R. McCullough

Elaine M. Mann



March 1, 2005

Ms. Sundi West
Montana Army National Guard
PO Box 4789
Helena, MT 59604-4789

Subject: Limestone Hills Training Area Withdrawal

Dear Sundi:

The Broadwater County Board of County Commissioners strongly disagrees with some of the alternatives provided in Tetra Tech's memo of 2/23/05. The following are a list of those alternatives we reject:

- ✓ Page 2-14; Paragraph 2.2; Alternative 2; PILT
- ✓ Page 2-22; Paragraph 2.2.6; PILT

Broadwater County is a stakeholder that attended the meeting on March 9th. It was our understanding from this meeting that the stakeholders did not indicate they wanted this option. Please help us understand why this option is now on the table.

The discussion we had was that Broadwater County could receive a one-time cash settlement. This option is not listed in Tetra Tech's memo. Please contact us and let us know why the discussion we had is not mentioned as an option in the 2/23/05 memo.

If you have any questions, please do not hesitate to contact me on 980-2051.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven R. McCullough". The signature is fluid and cursive, with a large initial "S" and "M".

Steven R. McCullough
Commissioner

:nat

cc: Mr. Steve Hartmann, Bureau of Land Management
Ms. Alice Stanley, Tetra Tech



STATE OF MONTANA

OFFICE OF THE ADJUTANT GENERAL
(406) 941-3009

HELENA, MONTANA 59604-4789

March 3, 2005

To: Board of County Commissioners
Steven McCullough, Commissioner
515 Broadway
Townsend, MT 59644

RE: Limestone Hills Training Area Proposed Withdrawal

Dear Commissioner McCullough,

Thank you for your letter dated March 1, 2005 regarding the proposed action and stakeholder-developed alternative to the proposed withdrawal of Limestone Hills.

I agree that the materials sent to you did not include a one-time cash settlement for the loss of PILT, which has been suggested by the County Commissioners. This does not mean that your comments were ignored or rejected. At this point in the NEPA process we are attempting to define the actions that may occur for a withdrawal and all feasible alternatives, including a no action alternative. The next step is for specialists to identify the impact to those actions, both positive and negative. After that we will begin to address the negative impacts with possible mitigation.

The Commissioners suggestion seemed most appropriate for including in the LEIS as possible mitigation for the loss of PILT and so would not appear in the LEIS until the draft LEIS went out for public review. However, we are open to considering a differing opinion.

I look forward to continuing this discussion at the Stakeholder Working Group meeting on March 9th. Please feel free to contact me with any questions or concerns.

Thank you,

A handwritten signature in cursive script that reads "Sundi West".

Sundi West
Natural & Cultural Resource Manager
MT Army National Guard-Environmental Division
PO Box 4789
Helena, MT 59604-4789

APPENDIX H
LIMESTONE HILLS TRAINING VEGETATION



Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
NATIVE PERENNIAL GRAMINOIDS		
Agropyron caninum	Agr can	Bearded wheatgrass
Agropyron dasystachyum	Agr das	Thickspike wheatgrass
Agropyron smithii	Agr smi	Western wheatgrass
Agropyron spicatum	Agr spi	Bluebunch wheatgrass
Agropyron trachycaulum	Agr tra	Slender wheatgrass
Aristida longiseta	Ari lon	Red threeawn
Bouteloua gracilis	Bou gra	Blue grama
Calamagrostis montanensis	Cal mon	Plains reedgrass
Calamagrostis purpurascens	Cal pur	Purple reedgrass
Carex aurea	Car aur	Golden sedge
Carex douglasii	Car dou	Douglas's sedge
Carex filifolia	Car fil	Threadleaf sedge
Carex lanuginosa	Car lan	Woolly sedge
Carex microptera	Car mic	Small-winged sedge
Carex nebraskensis	Car neb	Nebraska sedge
Carex petasata	Car pet	Liddon's sedge
Carex praegracilis	Car pra	Clustered field sedge
Carex rossii	Car roi	Ross sedge
Carex stenophylla	Car ste	Needleleaf sedge
Catabrosa aquatica	Cat aqu	Brookgrass
Eleocharis palustris	Ele pal	Common spikedsedge
Elymus canadensis	Ely can	Canada wildrye
Elymus cinereus	Ely cin	Basin wildrye
Festuca idahoensis	Fes ida	Idaho fescue
Festuca scabrella	Fes sca	Rough fescue
Glyceria striata	Gly str	Fowl mannagrass
Hordeum jubatum	Hor jub	Foxtail barley
Juncus balticus	Jun bal	Baltic rush
Juncus longistylis	Jun lon	Longstyle rush
Juncus tenuis	Jun ten	Slender rush
Koeleria cristata	Koe cri	Prairie junegrass
Muhlenbergia cuspidata	Muh cus	Plains muhly
Muhlenbergia richardsonii	Muh ric	Mat muhly
Oryzopsis hymenoides	Ory hym	Indian ricegrass
Oryzopsis micrantha	Ory mic	Littleseed ricegrass
Poa cusickii	Poa cus	Cusick's bluegrass
Poa interior	Poa int	Inland bluegrass
Poa juncifolia	Poa jun	Alkali bluegrass
Poa sandbergii	Poa san	Sandberg's bluegrass
Poa scabrella	Poa sca	Pine bluegrass
Schedonnardus paniculatus	Sch pan	Tumblegrass
Sitanion hystrix	Sit hys	Bottlebrush squirreltail
Sporobolus cryptandrus	Spo cry	Sand dropseed
Stipa comata	Sti com	Needle-and-thread
Stipa occidentalis	Sti occ	Western needlegrass
Stipa viridula	Sti vir	Green needlegrass

INTRODUCED PERENNIAL GRAMINOIDS

Limestone Hills Training Area
Withdrawal and LEIS

Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
Agropyron cristatum	Agr cri	Crested wheatgrass
Agropyron intermedium	Agr int	Intermediate wheatgrass
Agropyron repens	Agr rep	Quackgrass
Agrostis stolonifera	Agr sto	Redtop
Bromus biebersteinii	Bro bie	Meadow brome
Bromus inermis	Bro ine	Smooth brome
Dactylis glomerata	Dac glo	Orchard-grass
Phleum pratense	Phl pra	Common timothy
Poa compressa	Poa com	Canada bluegrass
Poa palustris	Poa pal	Fowl bluegrass
Poa pratensis	Poa pra	Kentucky bluegrass

NATIVE ANNUAL GRAMINOIDS

Festuca octoflora	Fes oct	Six-weeks fescue
Juncus bufonius	Jun buf	Toad rush
Monroa squarrosa	Mon squ	False buffalograss

INTRODUCED ANNUAL GRAMINOIDS

Bromus japonicus	Bro jap	Japanese brome
Bromus squarrosus	Bro squ	Corn brome
Bromus tectorum	Bro tec	Cheatgrass brome
Lolium multiflorum	Lol mul	Annual ryegrass
Setaria viridis	Set vir	Green bristlegrass
Triticum aestivum	Tri aec	Wheat

NATIVE PERENNIAL FORBS

Achillea millefolium	Ach mil	Common yarrow
Agoseris glauca	Ago gla	Pale agoseris
Allium cernuum	All cer	Nodding onion
Allium textile	All tex	Textile onion
Anemone multifida	Ane mul	Ball anemone
Anemone patens	Ane pat	Pasqueflower
Antennaria dimorpha	Ant dim	Low pussytoes
Antennaria microphylla	Ant mic	Rosy pussytoes
Antennaria parvifolia	Ant par	Littleleaf pussytoes
Arabis microphylla	Ara mic	Littleleaf rockcress
Arabis nuttallii	Ara nut	Nuttall's rockcress
Arabis sparsiflora	Ara spa	Sicklepod rockcress
Arenaria congesta	Are con	Ballhead sandwort
Arenaria lateriflora	Are lat	Bluntleaf sandwort
Arnica fulgens	Arn ful	Orange arnica
Arnica sororia	Arn sor	Twin arnica
Artemisia campestris	Art cam	Field sagewort

NATIVE PERENNIAL FORBS (Continued)

Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
Artemisia dracunculus	Art dra	False-tarragon sawwort
Artemisia ludoviciana	Art lud	Cudweed sawwort
Aster chilensis	Ast chi	Long-leaved aster
Aster falcatus	Ast fal	Creeping white prairie aster
Aster foliaceus	Ast fol	Leafy aster
Aster scopolorum	Ast sco	Crag aster
Aster sibiricus	Ast sib	Siberian aster
Astragalus adsurgens	Ast ads	Prairie milkvetch
Astragalus agrestis	Ast agr	Field milkvetch
Astragalus bisulcatus	Ast bis	Two-grooved milkvetch
Astragalus convallarius	Ast cov	Lesser rushy milkvetch
Astragalus crassicaulis	Ast cra	Groundplum milkvetch
Astragalus drummondii	Ast dru	Drummond's milkvetch
Astragalus flexuosus	Ast fle	Wiry milkvetch
Astragalus gilviflorus	Ast gil	Threeleaved milkvetch
Astragalus gracilis	Ast gra	Slender milkvetch
Astragalus lotiflorus	Ast lot	Lotus milkvetch
Astragalus miser	Ast mis	Weedy milkvetch
Astragalus missouriensis	Ast mio	Missouri milkvetch
Astragalus purshii	Ast pur	Pursh's milkvetch
Besseyia wyomingensis	Bes wyo	Wyoming kittentail
Campanula rotundifolia	Cam rot	Roundleaf harebell
Castilleja flava	Cas fla	Yellow paintbrush
Castilleja pallidiflora	Cas pal	Palish Indian-paintbrush
Cerastium arvense	Cer arv	Field chickweed
Chaenactis douglasii	Cha dou	Douglas chaenactis
Chrysopsis villosa	Chr vil	Hairy goldenaster
Cirsium undulatum	Cir und	Wavyleaf thistle
Comandra umbellata	Com umb	Pale bastard toadflax
Coryphantha missouriensis	Cor mis	Nipple coryphantha
Crepis acuminata	Cre acu	Tapertip hawksbeard
Crepis atribarba	Cre atr	Slender hawksbeard
Crepis modocensis	Cre mod	Low hawksbeard
Crepis occidentalis	Cre occ	Western hawksbeard
Cymopterus bipinnatus	Cym bip	Fernleaf spring parsley
Delphinium bicolor	Del bic	Low larkspur
Delphinium nuttallianum	Del nut	Nuttall's larkspur
Dodecatheon conjugens	Dod con	Slimpod shooting star
Douglasia montana	Dou mon	Rocky Mountain douglasia
Draba oligosperma	Dra oli	Few-seeded draba
Epilobium angustifolium	Epi ang	Fireweed
Epilobium ciliatum	Epi cil	Common willow-herb
Erigeron caespitosus	Eri cae	Tufted fleabane
Erigeron compositus	Eri com	Cut-leaved daisy
Erigeron ochroleucus	Eri och	Buff fleabane
Erigeron pumilus	Eri pum	Shaggy fleabane
Erigeron subtrinervis	Eri sub	Three nerve fleabane
Eriogonum flavum	Eri fla	Yellow buckwheat
Eriogonum mancum	Eri man	Imperfect buckwheat
NATIVE PERENNIAL FORBS (Continued)		
Eriogonum ovalifolium	Eri ova	Oval-leaved buckwheat

Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
Eriogonum umbellatum	Eri umb	Sulfur buckwheat
Erysimum inconspicuum	Ery inc	Smallflowered rocket
Evolvulus nuttallianus	Evo nut	Nuttall evolvulus
Fritillaria pudica	Fri pud	Yellow bell
Gaillardia aristata	Gai ari	Blanket-flower
Galium boreale	Gal bor	Northern bedstraw
Gaura coccinea	Gau coc	Scarlet gaura
Geum macrophyllum	Geu mac	Large leaf avens
Geum triflorum	Geu tri	Prairiesmoke
Gilia spicata	Gil spi	Spicate gilia
Glycyrrhiza lepidota	Gly lep	American licorice
Haplopappus acaulis	Hap aca	Cushion goldenweed
Haplopappus armerioides	Hap arm	Thrifty goldenweed
Haplopappus spinulosus	Hap spi	Spiny goldenweed
Hedeoma drummondii	Hed dru	Drummond's pennyroyal
Heuchera parvifolia	Heu par	Littleleaf alumroot
Hymenopappus filifolius	Hym fil	Narrowleaf hymenopappus
Hymenoxys acaulis	Hym aca	Stemless hymenoxys
Hymenoxys richardsonii	Hym ric	Richardson's hymenoxys
Hypericum formosum	Hyp for	Western St. John's-wort
Iris missouriensis	Iri mis	Rocky Mountain iris
Iva axillaris	Iva axi	Poverty weed
Ivesia gordonii	Ive gor	Gordon's ivesia
Kuhnia eupatorioides	Kuh eup	False-boneset
Lactuca oblongifolia	Lac obl	Chicory lettuce
Lesquerella alpina	Les alp	Alpine bladderpod
Lewisia rediviva	Lew red	Bitterroot
Liatris punctata	Lia pun	Dotted blazingstar
Linum lewisii	Lin lew	Blue flax
Lithophragma parviflorum	Lit par	Smallflower fringecup
Lithospermum incisum	Lit inc	Yellow gromwell
Lithospermum ruderale	Lit rud	Western gromwell
Lomatium triternatum	Lom tri	Nine-leaf lomatium
Lupinus sericeus	Lup ser	Silky lupine
Lychnis drummondii	Lyc dru	Drummond campion
Lygodesmia juncea	Lyg jun	Rush-like skeleton-weed
Mentha arvensis	Men arv	Field mint
Mentzelia laevicaulis	Men lae	Blazing-star mentzelia
Mertensia oblongifolia	Mer obl	Oblongleaf bluebells
Microseris troximoides	Mic tro	False agoseris
Mimulus guttatus	Mim gut	Common monkey-flower
Mirabilis linearis	Mir lin	Narrowleaf four-o'clock
Monarda fistulosa	Mon fis	Horsemint
Musineon divaricatum	Mus div	Leafy musineon
Oenothera caespitosa	Oen cae	Tufted evening-primrose
Oenothera flava	Oen fla	Long-tubed evening-primrose
Opuntia polyacantha	Opu pol	Plains pricklypear
Orobancha fasciculata	Oro fas	Clustered broomrape

NATIVE PERENNIAL FORBS (Continued)

Orobancha ludoviciana	Oro lud	Suksdorf's broomrape
Oxytropis deflexa	Oxy def	Pendent-pod locoweed

Limestone Hills Training Area
Withdrawal and LEIS

Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
Oxytropis lagopus	Oxy lag	Haresfoot locoweed
Oxytropis sericea	Oxy ser	Silky locoweed
Paronychia sessiliflora	Par ses	Stemless whitlow-wort
Penstemon aridus	Pen ari	Stiff-leaf penstemon
Penstemon attenuatus	Pen att	Sulfur penstemon
Penstemon eriantherus	Pen eri	Fuzzytongue penstemon
Penstemon nitidus	Pen nit	Waxleaf penstemon
Petrophyton caespitosum	Pet cae	Rocky Mountain rockmat
Phacelia hastata	Pha has	Silverleaf phacelia
Phlox albomarginata	Phl alb	White-margined phlox
Phlox alyssifolia	Phl aly	Alyssum-leaved phlox
Phlox hoodii	Phl hoo	Hood's phlox
Phlox muscoides	Phl mus	Moss phlox
Potentilla concinna	Pot con	Early cinquefoil
Potentilla gracilis	Pot gra	Slender cinquefoil
Potentilla hippiana	Pot hip	Woolly cinquefoil
Potentilla ovina	Pot ovi	Sheep cinquefoil
Potentilla pensylvanica	Pot pen	Prairie cinquefoil
Ranunculus cymbalaria	Ran cym	Rocky Mountain buttercup
Ranunculus macounii	Ran mac	Macoun's buttercup
Ratibida columnifera	Rat col	Prairie coneflower
Rumex salicifolius	Rum sal	Willow dock
Schoenocrambe linifolia	Sch lin	Flaxleaf plainsmustard
Sedum lanceolatum	Sed lan	Lanceleaf stonewort
Senecio canus	Sen can	Woolly groundsel
Senecio pseud aureus	Sen pse	Golden groundsel
Senecio serra	Sen ser	Tall groundsel
Sisyrinchium angustifolium	Sis ang	Common blue-eyed grass
Smilacina racemosa	Smi rac	Feather solomon's seal
Smilacina stellata	Smi ste	Starry false solomon's seal
Solidago canadensis	Sol can	Canada goldenrod
Solidago missouriensis	Sol mis	Missouri goldenrod
Sphaeralcea coccinea	Sph coc	Scarlet globemallow
Stellaria longipes	Ste lon	Longstalk starwort
Stephanomeria runcinata	Ste run	Desert wirelettuce
Stephanomeria tenuifolia	Ste ten	Slender wirelettuce
Telesonix jamesii	Tel jam	James' saxifrage
Thelesperma subnudum	The sub	Greenthread
Townsendia hookeri	Tow hoo	Hooker's townsendia
Townsendia spathulata	Tow spa	Sword townsendia
Typha latifolia	Typ lat	Common cattail
Urtica dioica	Urt dio	Stinging nettle
Verbena bracteata	Ver bra	Bracted verbena
Veronica americana	Ver ame	American speedwell
Vicia americana	Vic ame	American vetch
Viola nuttallii	Vio nut	Yellow prairie violet
Zigadenus venenosus	Zig ven	Meadow death-camas
INTRODUCED PERENNIAL FORBS		
Asparagus officinalis	Asp off	Asparagus
Astragalus cicer	Ast cic	Cicer milkvetch
Cardaria draba	Car dra	Heart-podded hoarycress

*Limestone Hills Training Area
Withdrawal and LEIS*

Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
<i>Centaurea maculosa</i>	Cen mac	Spotted knapweed
<i>Cerastium vulgatum</i>	Cer vul	Common chickweed
<i>Cirsium arvense</i>	Cir arv	Canada thistle
<i>Euphorbia esula</i>	Eup esu	Leafy spurge
<i>Linaria dalmatica</i>	Lin dal	Dalmatian toadflax
<i>Linaria vulgaris</i>	Lin vul	Butter-and-eggs
<i>Marrubium vulgare</i>	Mar vul	Horehound
<i>Medicago sativa</i>	Med sat	Alfalfa
<i>Nepeta cataria</i>	Nep cat	Catnip
<i>Onobrychis viciifolia</i>	Ono vic	Saintfoin
<i>Plantago major</i>	Pla maj	Common plantain
<i>Rumex crispus</i>	Rum cri	Curl dock
<i>Sonchus uliginosus</i>	Son uli	Marsh sow-thistle
<i>Taraxacum officinale</i>	Tar off	Common dandelion
<i>Trifolium repens</i>	Tri rep	White Dutch clover
FERNS AND ALLIES		
<i>Cheilanthes feei</i>	Che fee	Fee's lipfern
<i>Cystopteris fragilis</i>	Cys fra	Brittle bladder-fern
<i>Equisetum arvense</i>	Equ arv	Common horsetail
<i>Equisetum laevigatum</i>	Equ lae	Smooth horsetail
<i>Selaginella densa</i>	Sel den	Compact clubmoss
<i>Woodsia oregana</i>	Woo ore	Oregon woodsia
<i>Woodsia scopulina</i>	Woo sco	Rocky Mountain woodsia
NATIVE ANNUAL/BIENNIAL FORBS		
<i>Androsace septentrionalis</i>	And sep	Northern fairy-candelabra
<i>Arabis hirsuta</i>	Ara hir	Hairy rockcress
<i>Arabis holboellii</i>	Ara hol	Holboell's rockcress
<i>Artemisia biennis</i>	Art bie	Biennial wormwood
<i>Chenopodium fremontii</i>	Che fre	Fremont's goosefoot
<i>Chenopodium leptophyllum</i>	Che lep	Slimleaf goosefoot
<i>Collinsia parviflora</i>	Col par	Blue-eyed Mary
<i>Collomia linearis</i>	Col lin	Narrow-leaf collomia
<i>Coryza canadensis</i>	Con can	Canada horseweed
<i>Corydalis aurea</i>	Cor aur	Golden corydalis
<i>Cryptantha celosioides</i>	Cry cel	Northern cryptantha
<i>Descurainia pinnata</i>	Des pin	Pinnate tansymustard
<i>Descurainia richardsonii</i>	Des ric	Richardson's tansymustard
<i>Draba reptans</i>	Dra rep	Carolina draba
<i>Epilobium paniculatum</i>	Epi pan	Autumn willow-herb

NATIVE ANNUAL/BIENNIAL FORBS (Continued)

<i>Erysimum asperum</i>	Ery asp	Plains wallflower
<i>Erysimum cheiranthoides</i>	Ery che	Treacle mustard
<i>Euphorbia glyptosperma</i>	Eup gly	Corrugate-seeded spurge
<i>Galium aparine</i>	Gal apa	Cleavers

*Limestone Hills Training Area
Withdrawal and LEIS*

Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
<i>Grindelia squarrosa</i>	Gri squ	Curlycup gumweed
<i>Hackelia floribunda</i>	Hac flo	Showy stickseed
<i>Helianthus petiolaris</i>	Hel pet	Prairie sunflower
<i>Lappula echinata</i>	Lap ech	Bristly stickseed
<i>Lappula redowskii</i>	Lap red	Western stickseed
<i>Lepidium densiflorum</i>	Lep den	Prairie pepperweed
<i>Linum rigidum</i>	Lin rig	Yellow flax
<i>Lupinus pusillus</i>	Lup pus	Rusty lupine
<i>Machaeranthera canescens</i>	Mac can	Hoary aster
<i>Microsteris gracilis</i>	Mic gra	Pink microsteris
<i>Mimulus floribundus</i>	Mim flo	Purple-stem monkey-flower
<i>Monolepis nuttalliana</i>	Mon nut	Nuttall's monolepis
<i>Oenothera strigosa (villosa)</i>	Oen str	Common evening-primrose
<i>Orthocarpus luteus</i>	Ort lut	Yellow owl clover
<i>Parietaria pensylvanica</i>	Par pen	Pellitory
<i>Phacelia linearis</i>	Pha lin	Threadleaf phacelia
<i>Plantago patagonica</i>	Pla pat	Woolly plantain
<i>Polanisia trachysperma</i>	Pol tra	Clammy weed
<i>Potentilla biennis</i>	Pot bie	Biennial cinquefoil
<i>Ranunculus scleratus</i>	Ran sce	Celery-leaved buttercup
<i>Solanum triflorum</i>	Sol tri	Cut-leaved nightshade

INTRODUCED ANNUAL/BIENNIAL FORBS

<i>Alyssum alyssoides</i>	Aly aly	Pale alyssum
<i>Alyssum desertorum</i>	Aly des	Desert alyssum
<i>Arctium lappa</i>	Arc lap	Great burdock
<i>Asperugo procumbens</i>	Asp pro	Madwort
<i>Camelina microcarpa</i>	Cam mic	Littlepod falseflax
<i>Carduus nutans</i>	Car nut	Musk thistle
<i>Centaurea diffusa</i>	Cen dif	Diffuse knapweed
<i>Chenopodium album</i>	Che alb	Lambsquarter
<i>Chenopodium botrys</i>	Che bot	Jerusalem-oak goosefoot
<i>Cirsium vulgare</i>	Cir vul	Bull thistle
<i>Conringia orientalis</i>	Con ori	Hare's-ear mustard
<i>Cynoglossum officinale</i>	Cyn off	Common hound's-tongue
<i>Descurainia sophia</i>	Des sop	Flixweed tansymustard
<i>Draba nemorosa</i>	Dra nem	Woods draba
<i>Filago arvensis</i>	Fil arv	Field filago
<i>Fumaria officinalis</i>	Fum off	Common fumitory
<i>Hyoscyamus niger</i>	Hyo nig	Black henbane
<i>Kochia scoparia</i>	Koc sco	Belevedere summercypress
<i>Lactuca serriola</i>	Lac ser	Prickly lettuce
<i>Malcolmia africana</i>	Mal afr	African mustard

INTRODUCED ANNUAL/BIENNIAL FORBS (Continued)

<i>Medicago lupulina</i>	Med lup	Black medic
<i>Melilotus alba</i>	Mel alb	White sweetclover
<i>Melilotus officinalis</i>	Mel off	Yellow sweetclover
<i>Salsola iberica</i>	Sal ibe	Russian thistle
<i>Silene cserei</i>	Sil cse	Smooth catchfly

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Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
<i>Sisymbrium altissimum</i>	Sis alt	Tumblemustard
<i>Sisymbrium loeselii</i>	Sis loe	Loesel tumblemustard
<i>Thlaspi arvense</i>	Thl arv	Fanweed
<i>Tragopogon dubius</i>	Tra dub	Common salsify
<i>Verbascum thapsus</i>	Ver tha	Flannel mullein
 SUBSHRUBS		
<i>Artemisia frigida</i>	Art fri	Fringed sagewort
<i>Gutierrezia sarothrae</i>	Gut sar	Broom snakeweed
 SHRUBS		
<i>Acer glabrum</i>	Ace gla	Rocky Mountain maple
<i>Alnus incana</i>	Aln inc	Thinleaf alder
<i>Amelanchier alnifolia</i>	Ame aln	Western serviceberry
<i>Artemisia arbuscula</i>	Art arb	Low sagebrush
<i>Artemisia cana</i>	Art can	Silver sagebrush
<i>Artemisia nova</i>	Art nov	Black sagebrush
<i>Artemisia tridentata</i>	Art tri	Big sagebrush
<i>Atriplex nuttallii</i>	Atr nut	Nuttall saltbush
<i>Ceratoides lanata</i>	Cer lan	Winterfat
<i>Cercocarpus ledifolius</i>	Cer led	Curly-leaf mountain mahogany
<i>Chrysothamnus nauseosus</i>	Chr nau	Rubber rabbitbrush
<i>Chrysothamnus viscidiflorus</i>	Chr vis	Green rabbitbrush
<i>Clematis ligusticifolia</i>	Cle lig	Western virgins-bower
<i>Cornus stolonifera</i>	Cor sto	Red-osier dogwood
<i>Eriogonum microthecum</i>	Eri mic	Slenderbush buckwheat
<i>Juniperus communis</i>	Jun com	Common juniper
<i>Philadelphus lewisii</i>	Phi lew	Mockorange
<i>Potentilla fruticosa</i>	Pot fru	Shrubby cinquefoil
<i>Prunus virginiana</i>	Pru vir	Common chokecherry
<i>Rhus aromatica</i>	Rhu aro	Skunkbush sumac
<i>Ribes aureum</i>	Rib aur	Golden currant
<i>Ribes cereum</i>	Rib cer	Wax currant
<i>Ribes setosum</i>	Rib set	Bristly gooseberry
<i>Rosa arkansana</i>	Ros ark	Prairie rose
<i>Rosa woodsii</i>	Ros woo	Wood's rose
<i>Rubus idaeus</i>	Rub ida	Red raspberry
<i>Salix bebbiana</i>	Sal beb	Bebb willow
<i>Salix boothii</i>	Sal boo	Blueberry willow
<i>Salix exigua</i>	Sal exi	Sandbar willow
SHRUBS (Continued)		
<i>Salix lutea</i>	Sal lut	Yellow willow
<i>Salix scouleriana</i>	Sal sco	Scouler willow
<i>Solanum dulcamara</i>	Sol dul	Bittersweet nightshade
<i>Symphoricarpos occidentalis</i>	Sym occ	Western snowberry
<i>Tetradymia canescens</i>	Tet can	Gray horsebrush
<i>Yucca glauca</i>	Yuc gla	Soapwell yucca

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Appendix H. List of vascular plant species identified for the Limestone Hills Training Area, 1993-2002 (sources are given at the end of this list).

<u>Binomial</u>	<u>Code</u>	<u>Common Name</u>
TREES		
Elaeagnus angustifolia	Ela ang	Russian olive
Juniperus scopulorum	Jun sco	Rocky Mountain juniper
Pinus flexilis	Pin fle	Limber pine
Pinus ponderosa	Pin pon	Ponderosa pine
Populus angustifolia	Pop ang	Narrowleaf cottonwood
Populus tremuloides	Pop tre	Quaking aspen
Populus trichocarpa	Pop tri	Black cottonwood
Populus x acuminata	Pop xac	Rydberg's cottonwood
Pseudotsuga menziesii	Pse men	Douglas-fir

Nomenclature follows USDA Forest Service (1987).

Sources: This list is a compilation of all vascular plant species identified within the Limestone Hills Training Area during the following inventories:

- Scow and Culwell (1993)
- Western Technology & Engineering, Inc. (1998)
- Scow and Beaver (1999)
- Scow (2001)
- Scow and Juntunen (2003)

2. The following information is being furnished to you for your information only. It is not to be used for any other purpose.

General Information

Subject

Reference

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APPENDIX I
WILDLIFE SPECIES IN THE LHTA



Appendix I. Wildlife species potentially found in the region encompassing the Limestone Hills Training Area (LHTA).^a

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHTA^b</u>	<u>Recorded in LHTA</u>
Fish			
CATASTOMIDAE			
White Sucker	<i>Catostomus commersoni</i>	N	
Longnose Sucker	<i>Catostomus catostomus</i>	N	
CYPRINIDAE			
Common Carp	<i>Cyprinus carpio</i>	N	
Utah Chub	<i>Gila atraria</i>	N	
Longnose Dace	<i>Rhinichthys cataractae</i>	N	
Flathead Chub	<i>Platypharodon gracilis</i>	N	
Fathead Minnow	<i>Pimephales promelas</i>	N	
SALMONIDAE			
Rainbow Trout	<i>Oncorhynchus mykiss</i>	Y	
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	Y	
Brown Trout	<i>Salmo trutta</i>	N	
Brook Trout	<i>Salvelinus fontinalis</i>	Y	√
Mountain Whitefish	<i>Prosopium williamsoni</i>	N	
ICTALURIDAE			
Stoneyhead	<i>Noturus flavus</i>	N	
GADIDAE			
Burbot	<i>Lota lota</i>	N	
COTTIDAE			
Mottled Sculpin	<i>Cottus bairdi</i>	Y	
PERCIDAE			
Yellow Perch	<i>Perca flavescens</i>	N	
Walleye	<i>Stizostedion vitreum</i>	N	
Amphibians			
ANURA			
Western Toad	<i>Bufo boreas</i>	Y	
Boreal Chorus Frog	<i>Pseudacris maculata</i>	N	
Plains Spadefoot	<i>Spea bombifrons</i>	Y? ^c	
Northern Leopard Frog	<i>Rana pipiens</i>	N	
Columbia Spotted Frog	<i>Rana luteiventris</i>	N	
Reptiles			
TESTUDINES			
Painted Turtle	<i>Chrysemys picta</i>	N	
SQUAMATA			
Short Horned Lizard	<i>Phrynosoma hernandesi</i>	Y	

Appendix I (continued)

Common Name	Scientific Name	Preferred Habitat Occurs in LHTA ^b	Recorded in LHTA
Rubber Boa	<i>Charina bottae</i>	Y	
Racer	<i>Coluber constrictor</i>	Y	
Gopher Snake	<i>Pituophis catenifer</i>	Y	√
Terrestrial Garter Snake	<i>Thamnophis elegans</i>	Y	√
Common Garter Snake	<i>Thamnophis sirtalis</i>	Y	
Western Rattlesnake	<i>Crotalus viridis</i>	Y	√
Birds			
GAVIIFORMES			
Common Loon	<i>Gavia immer</i>	N	
PODICIPEDIFORMES			
Pied Billed Grebe	<i>Podilymbus podiceps</i>	N	
Horned Grebe	<i>Podiceps auritus</i>	N	
Red-Necked Grebe	<i>Podiceps grisegena</i>	N	
Eared Grebe	<i>Podiceps nigricollis</i>	N	
Western Grebe	<i>Aechmophorus occidentalis</i>	N	
Clark's Grebe	<i>Aechmophorus clarkia</i>	N	
PELECANIFORMES			
American White Pelican	<i>Pelecanus erythrorhynchos</i>	N	
Double-Crested Cormorant	<i>Phalacrocorax auritus</i>	N	
CICONIIFORMES			
American Bittern	<i>Botaurus lentiginosus</i>	N	
Great Blue Heron	<i>Ardea herodias</i>	N	
Great Egret	<i>Ardea alba</i>	N	
Snowy Egret	<i>Egretta thula</i>	N	
Cattle Egret	<i>Bubulcus ibis</i>	N	
Black-Crowned Night Heron	<i>Nycticorax nycticorax</i>	N	
White-Faced Ibis	<i>Plegadis chihi</i>	N	
ANSERIFORMES			
Tundra Swan	<i>Cygnus columbianus</i>	N	
Trumpeter Swan	<i>Cygnus buccinator</i>	N	
Mute Swan	<i>Cygnus olor</i>	N	
Greater White-Fronted Goose	<i>Anser albifrons</i>	N	
Snow Goose	<i>Chen caerulescens</i>	N	√
Ross's Goose	<i>Chen rossii</i>	N	
Canada Goose	<i>Branta canadensis</i>	N	√
Wood Duck	<i>Aix sponsa</i>	N	
Green-Winged Teal	<i>Anas crecca</i>	N	
Mallard	<i>Anas platyrhynchos</i>	N	√
Northern Pintail	<i>Anas acuta</i>	N	
Blue-Winged Teal	<i>Anas discors</i>	N	
Cinnamon Teal	<i>Anas cyanoptera</i>	N	
Northern Shoveler	<i>Anas clypeata</i>	N	
Gadwall	<i>Anas strepera</i>	N	
Eurasian Wigeon	<i>Anas Penelope</i>	N	

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHTA^b</u>	<u>Recorded in LHTA</u>
American Wigeon	<i>Anas americana</i>	N	
Canvasback	<i>Aythya valisineria</i>	N	
Redhead	<i>Aythya americana</i>	N	
Ring-Necked Duck	<i>Aythya collaris</i>	N	
Greater Scaup	<i>Aythya marila</i>	N	
Lesser Scaup	<i>Aythya affinis</i>	N	
Harlequin Duck	<i>Histrionicus histrionicus</i>	N	
Long-Tailed Duck	<i>Clangula hyemalis</i>	N	
Surf Scoter	<i>Melanitta perspicillata</i>	N	
White-Winged Scoter	<i>Melanitta fusca</i>	N	
Common Goldeneye	<i>Bucephala clangula</i>	N	
Barrow's Goldeneye	<i>Bucephala islandica</i>	N	
Bufflehead	<i>Bucephala albeola</i>	N	
Hooded Merganser	<i>Lophodytes cucullatus</i>	N	
Common Merganser	<i>Mergus merganser</i>	N	
Red-Breasted Merganser	<i>Mergus serrator</i>	N	
Ruddy Duck	<i>Oxyura jamaicensis</i>	N	
FALCONIFORMES			
Turkey Vulture	<i>Cathartes aura</i>	Y	√
Osprey	<i>Pandion haliaetus</i>	N	√
Bald Eagle	<i>Haliaeetus leucocephalus</i>	N	√
Northern Harrier	<i>Circus cyaneus</i>	Y	√
Sharp-Shinned Hawk	<i>Accipiter striatus</i>	Y	
Cooper's Hawk	<i>Accipiter cooperii</i>	Y	√?
Northern Goshawk	<i>Accipiter gentilis</i>	N	
Swainson's Hawk	<i>Buteo swainsoni</i>	Y	
Red-Tailed Hawk	<i>Buteo jamaicensis</i>	Y	√
Ferruginous Hawk	<i>Buteo regalis</i>	Y	
Rough-Legged Hawk	<i>Buteo lagopus</i>	Y (winter)	√
Golden Eagle	<i>Aquila chrysaetos</i>	Y	√
American Kestrel	<i>Falco sparverius</i>	Y	√
Merlin	<i>Falco columbarius</i>	Y	
Peregrine Falcon	<i>Falco peregrinus</i>	N	
Gyr Falcon	<i>Falco rusticolus</i>	N	
Prairie Falcon	<i>Falco mexicanus</i>	Y	
GALLIFORMES			
Gray Partridge	<i>Perdix perdix</i>	Y	√
Ring-Necked Pheasant	<i>Phasianus colchicus</i>	Y	√
Spruce Grouse	<i>Falcipennis canadensis</i>	N	
Blue Grouse	<i>Dendragapus obscurus</i>	Y	√
Ruffed Grouse	<i>Bonasa umbellus</i>	N	
Sage Grouse	<i>Centrocercus urophasianus</i>	Y	
Sharp-Tailed Grouse	<i>Tympanuchus phasianellus</i>	Y	
Wild Turkey	<i>Meleagris gallopavo</i>	N	
GRUIFORMES			
Virginia Rail	<i>Rallus limicola</i>	N	

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHITA^b</u>	<u>Recorded in LHITA</u>
Sora	<i>Porzana carolina</i>	N	
American Coot	<i>Fulica americana</i>	N	
Sandhill Crane	<i>Grus canadensis</i>	N	
Whooping Crane	<i>Grus americana</i>	N	
CHARADRIIFORMES			
Black-Bellied Plover	<i>Pluvialis squatarola</i>	N	
American Golden-Plover	<i>Pluvialis dominicus</i>	N	
Snowy Plover	<i>Charadrius alexandrinus</i>	N	
Semipalmated Plover	<i>Charadrius semipalmatus</i>	N	
Piping Plover	<i>Charadrius melodus</i>	N	
Killdeer	<i>Charadrius vociferus</i>	Y	√
Mountain Plover	<i>Charadrius montanus</i>	N	
Black-Necked Stilt	<i>Himantopus mexicanus</i>	N	
American Avocet	<i>Recurvirostra americana</i>	N	
Greater Yellowlegs	<i>Tringa melanoleuca</i>	N	
Lesser Yellowlegs	<i>Tringa flavipes</i>	N	
Solitary Sandpiper	<i>Tringa solitaria</i>	N	
Willet	<i>Catoptrophorus semipalmatus</i>	N	
Spotted Sandpiper	<i>Actitis macularia</i>	N	
Upland Sandpiper	<i>Bartramia longicauda</i>	Y	√
Whimbrel	<i>Numenius phaeopus</i>	N	
Long-Billed Curlew	<i>Numenius americanus</i>	N	
Marbled Godwit	<i>Limosa fedoa</i>	N	
Ruddy Turnstone	<i>Arenaria interpres</i>	N	
Red Knot	<i>Calidris canutus</i>	N	
Sanderling	<i>Calidris alba</i>	N	
Semipalmated Sandpiper	<i>Calidris pusilla</i>	N	
Western Sandpiper	<i>Calidris mauri</i>	N	
Least Sandpiper	<i>Calidris minutilla</i>	N	
Baird's Sandpiper	<i>Calidris bairdi</i>	N	
Pectoral Sandpiper	<i>Calidris melanotos</i>	N	
Dunlin	<i>Calidris alpina</i>	N	
Stilt Sandpiper	<i>Calidris himantopus</i>	N	
Buff-Breasted Sandpiper	<i>Tryngites subruficollis</i>	N	
Long-Billed Dowitcher	<i>Limnodromus scolopaceus</i>	N	
Common Snipe	<i>Gallinago gallinago</i>	N	√
Wilson's Phalarope	<i>Phalaropus tricolor</i>	N	
Red-Necked Phalarope	<i>Phalaropus lobatus</i>	N	
Pomarine Jaeger	<i>Stercorarius pomarinus</i>	N	
Parasitic Jaeger	<i>Stercorarius parasiticus</i>	N	
Franklin's Gull	<i>Larus pipixcan</i>	N	
Bonaparte's Gull	<i>Larus Philadelphia</i>	N	
Ring-Billed Gull	<i>Larus delawarensis</i>	N	√
California Gull	<i>Larus californicus</i>	N	√
Herring Gull	<i>Larus argentatus</i>	N	
Iceland Gull	<i>Larus glaucoideus</i>	N	

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHITA^b</u>	<u>Recorded in LHITA</u>
Glaucous Gull	<i>Larus hyperboreus</i>	N	
Black-Legged Kittiwake	<i>Rissa tridactyla</i>	N	
Sabine's Gull	<i>Xema sabini</i>	N	
Caspian Tern	<i>Sterna caspia</i>	N	
Common Tern	<i>Sterna hirundo</i>	N	√
Forster's Tern	<i>Sterna forsteri</i>	N	
Black Tern	<i>Chlidonias niger</i>	N	
Ancient Murrelet	<i>Synthliboramphus antiquus</i>	N	
COLUMBIFORMES			
Rock Dove	<i>Columba livia</i>	Y	√
Mourning Dove	<i>Zenaida macroura</i>	Y	√
CUCULIFORMES			
Black-Billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Y	
STRIGIFORMES			
Flammulated Owl	<i>Otus flammeolus</i>	N	
Eastern Screech-Owl	<i>Otus asio</i>	N	
Western Screech-Owl	<i>Otus kennicottii</i>	N	
Great Horned Owl	<i>Bubo virginianus</i>	Y	√
Snowy Owl	<i>Nyctea scandiaca</i>	Y (winter)	
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	N	
Burrowing Owl	<i>Athene cunicularia</i>	Y	
Barred Owl	<i>Strix varia</i>	N	
Great Gray Owl	<i>Strix nebulosa</i>	N	
Long-Eared Owl	<i>Asio otus</i>	Y	
Short-Eared Owl	<i>Asio flammeus</i>	Y	
Boreal Owl	<i>Aegolius funereus</i>	N	
Northern Saw-Whet Owl	<i>Aegolius acadicus</i>	Y	√
CAPRIMULGIFORMES			
Common Nighthawk	<i>Chordeiles minor</i>	Y	√
Common Poorwill	<i>Phalaenoptilus nuttallii</i>	Y	
APODIFORMES			
Vaux's Swift	<i>Chaetura vauxi</i>	N	
White-Throated Swift	<i>Aeronautes saxatalis</i>	Y	√
Black-Chinned Hummingbird	<i>Archilochus alexandri</i>	N	
Anna's Hummingbird	<i>Calypte anna</i>	N	
Calliope Hummingbird	<i>Stellula calliope</i>	N	
Rufous Hummingbird	<i>Selasphorus rufus</i>	N	
CORACIIFORMES			
Belted Kingfisher	<i>Ceryle alcyon</i>	N	
PICIFORMES			
Lewis's Woodpecker	<i>Melanerpes lewis</i>	N	
Red-Headed Woodpecker	<i>Melanerpes erythrocephalus</i>	N	
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	N	
Red-Naped Sapsucker	<i>Sphyrapicus nuchalis</i>	N	
Downy Woodpecker	<i>Picoides pubescens</i>	Y	√
Hairy Woodpecker	<i>Picoides villosus</i>	Y	√

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHTA^b</u>	<u>Recorded in LHTA</u>
Three-Toed Woodpecker	<i>Picoides tridactylus</i>	N	
Black-Backed Woodpecker	<i>Picoides arcticus</i>	N	
Northern Flicker	<i>Colaptes auratus</i>	Y	√
Pileated Woodpecker	<i>Dryocopus pileatus</i>	N	
PASSERIFORMES			
Olive-Sided Flycatcher	<i>Contopus cooperi</i>	N	
Western Wood-Pewee	<i>Contopus sordidulus</i>	Y	√
Willow Flycatcher	<i>Empidonax trailii</i>	N	
Least Flycatcher	<i>Empidonax minimus</i>	Y	√
Hammond's Flycatcher	<i>Empidonax hammondi</i>	N	
Dusky Flycatcher	<i>Empidonax oberholseri</i>	Y	
Cordilleran Flycatcher	<i>Empidonax occidentalis</i>	N	
Say's Phoebe	<i>Sayornis saya</i>	Y	√
Western Kingbird	<i>Tyrannus verticalis</i>	Y	√
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Y	√
Horned Lark	<i>Eremophila alpestris</i>	Y	√
Tree Swallow	<i>Tachycineta bicolor</i>	Y	√
Violet-Green Swallow	<i>Tachycineta thalassina</i>	Y	
Northern Rough-Winged Swallow	<i>Stelgidopteryx serripennis</i>	Y	√
Bank Swallow	<i>Riparia riparia</i>	Y	√
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	Y	√
Barn Swallow	<i>Hirundo rustica</i>	Y	√
Gray Jay	<i>Perisoreus canadensis</i>	N	
Stellar's Jay	<i>Cyanocitta stelleri</i>	N	
Blue Jay	<i>Cyanocitta cristata</i>	N	
Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>	Y	√
Clark's Nutcracker	<i>Nucifraga columbiana</i>	Y	√
Black-billed Magpie	<i>Pica pica</i>	Y	√
American Crow	<i>Corvus brachyrhynchos</i>	Y	√
Common Raven	<i>Corvus corax</i>	Y	√
Black-Capped Chickadee	<i>Poecile atricapillus</i>	Y	
Mountain Chickadee	<i>Poecile gambeli</i>	Y	√
Red-Breasted Nuthatch	<i>Sitta canadensis</i>	Y	√
White-Breasted Nuthatch	<i>Sitta carolinensis</i>	Y	
Pygmy Nuthatch	<i>Sitta pygmaea</i>	N	
Brown Creeper	<i>Certhia americana</i>	N	
Rock Wren	<i>Salpinctes obsoletus</i>	Y	√
Canyon Wren	<i>Catherpes mexicanus</i>	Y	√
House Wren	<i>Troglodytes aedon</i>	Y	√
Winter Wren	<i>Troglodytes troglodytes</i>	N	
Marsh Wren	<i>Cistothorus palustris</i>	N	
American Dipper	<i>Cinclus mexicanus</i>	N	
Golden-Crowned Kinglet	<i>Regulus satrapa</i>	N	
Ruby-Crowned Kinglet	<i>Regulus calendula</i>	N	
Western Bluebird	<i>Sialia mexicana</i>	N	
Mountain Bluebird	<i>Sialia currucoides</i>	Y	√

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat</u> <u>Occurs in LHITA^b</u>	<u>Recorded</u> <u>in LHITA</u>
Townsend's Solitaire	<i>Myadestes townsendi</i>	Y	√
Veery	<i>Catharus fuscescens</i>	N	
Swainson's Thrush	<i>Catharus ustulatus</i>	N	
Hermit Thrush	<i>Catharus guttatus</i>	N	
American Robin	<i>Turdus migratorius</i>	Y	√
Varied Thrush	<i>Ixoreus naevius</i>	N	
Gray Catbird	<i>Dumetella carolinensis</i>	Y	√
Northern Mockingbird	<i>Mimus polyglottos</i>	N	
Sage Thrasher	<i>Oreoscoptes montanus</i>	Y	
Brown Thrasher	<i>Toxostoma rufum</i>	Y	
American Pipit	<i>Anthus rubescens</i>	N	
Sprague's Pipit	<i>Anthus Spragueii</i>	Y	
Bohemian Waxwing	<i>Bombycilla garrulus</i>	Y	√
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Y	
Northern Shrike	<i>Lanius excubitor</i>	N	
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Y	√
European Starling	<i>Sturnus vulgaris</i>	Y	√
Solitary Vireo	<i>Vireo solitarius</i>	N	
Warbling Vireo	<i>Vireo gilvus</i>	Y	√
White-Eyed Vireo	<i>Vireo griseus</i>	N	
Red-Eyed Vireo	<i>Vireo olivaceus</i>	N	
Tennessee Warbler	<i>Vermivora peregrina</i>	N	
Orange-Crowned Warbler	<i>Vermivora celata</i>	N	
Yellow Warbler	<i>Dendroica petechia</i>	Y	√
Magnolia Warbler	<i>Dendroica magnolia</i>	N	
Yellow-Rumped Warbler	<i>Dendroica coronata</i>	Y	√
Townsend's Warbler	<i>Dendroica townsendi</i>	N	
Palm Warbler	<i>Dendroica palmarum</i>	N	
American Redstart	<i>Setophaga ruticilla</i>	Y	√
Ovenbird	<i>Seiurus aurocapillus</i>	N	
Northern Waterthrush	<i>Seiurus noveboracensis</i>	N	
Macgillivray's Warbler	<i>Oporornis tolmiei</i>	N	
Common Yellowthroat	<i>Geothlypis trichas</i>	N	
Wilson's Warbler	<i>Wilsonia pusilla</i>	N	
Yellow-Breasted Chat	<i>Icteria virens</i>	N	
Western Tanager	<i>Piranga ludoviciana</i>	Y	√
Black-Headed Grosbeak	<i>Phaeucticus melanocephalus</i>	Y	
Lazuli Bunting	<i>Passerina amoena</i>	Y	
Indigo Bunting	<i>Passerina cyanea</i>	N	
Dickcissel	<i>Spiza americana</i>	N	
Green-Tailed Towhee	<i>Pipilo chlorurus</i>	Y	√
Spotted Towhee	<i>Pipilo maculatus</i>	Y	√
American Tree Sparrow	<i>Spizella arborea</i>	Y	
Chipping Sparrow	<i>Spizella passerina</i>	Y	√
Clay-Colored Sparrow	<i>Spizella pallida</i>	Y	√
Brewer's Sparrow	<i>Spizella breweri</i>	Y	√

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHTA^b</u>	<u>Recorded in LHTA</u>
Vesper Sparrow	<i>Poocetes gramineus</i>	Y	√
Lark Sparrow	<i>Chondestes grammacus</i>	Y	√
Black-Throated Sparrow	<i>Amphispiza bilineata</i>	N	
Sage Sparrow	<i>Amphispiza belli</i>	N	
Lark Bunting	<i>Calamospiza melanocorys</i>	Y	√
Savannah Sparrow	<i>Passerculus sandwichensis</i>	N	
Baird's Sparrow	<i>Ammodramus bairdii</i>	N	
LeConte's Sparrow	<i>Ammodramus leconteii</i>	N	
Fox Sparrow	<i>Passerella iliaca</i>	N	
Song Sparrow	<i>Melospiza melodia</i>	N	
Lincoln's Sparrow	<i>Melospiza lincolni</i>	N	
White-Throated Sparrow	<i>Zonotrichia albicollis</i>	N	
White-Crowned Sparrow	<i>Zonotrichia leucophrys</i>	N	
Harris' Sparrow	<i>Zonotrichia querula</i>	N	
Dark-Eyed Junco	<i>Junco hyemalis</i>	Y	√
McCown's Longspur	<i>Calcarius mccownii</i>	Y	
Lapland Longspur	<i>Calcarius lapponicus</i>	N	
Chestnut-Collared Longspur	<i>Calcarius ornatus</i>	N	
Snow Bunting	<i>Plectrophenax nivalis</i>	Y	√
Bobolink	<i>Dolichonyx oryzivorus</i>	N	
Red-Winged Blackbird	<i>Agelaius phoeniceus</i>	N	
Western Meadowlark	<i>Sturnella neglecta</i>	Y	√
Yellow-Headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	N	
Rusty Blackbird	<i>Euphagus carolinus</i>	N	
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Y	√
Common Grackle	<i>Quiscalus quiscula</i>	N	
Brown-Headed Cowbird	<i>Molothrus ater</i>	Y	√
Bullock's Oriole	<i>Icterus bullockii</i>	Y	√
Black Rosy-Finch	<i>Leucosticte atrata</i>	N	
Gray-Crowned Rosy Finch	<i>Leucosticte tephrocotis</i>	N	
Pine Grosbeak	<i>Pinicola enucleator</i>	N	
Purple Finch	<i>Carpodacus purpureus</i>	N	
Cassin's Finch	<i>Carpodacus cassinii</i>	N	
House Finch	<i>Carpodacus mexicanus</i>	N	
Red Crossbill	<i>Loxia curvirostra</i>	N	
White-Winged Crossbill	<i>Loxia leucoptera</i>	N	
Common Redpoll	<i>Carduelis flammea</i>	Y	
Hoary Redpoll	<i>Carduelis hornemanni</i>	Y	
Pine Siskin	<i>Carduelis pinus</i>	Y	√
American Goldfinch	<i>Carduelis tristis</i>	Y	√
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Y	
House Sparrow	<i>Passer domesticus</i>	Y	√

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHTA^b</u>	<u>Recorded in LHTA</u>
Mammals			
INSECTIVORA			
Masked Shrew	<i>Sorex cinereus</i>	Y	
Preble's Shrew	<i>Sorex preblei</i>	Y	
Vagrant Shrew	<i>Sorex vagrans</i>	Y	
Dusky or Montane Shrew	<i>Sorex monticolus</i>	N	
Dwarf Shrew	<i>Sorex nanus</i>	N	
Water Shrew	<i>Sorex palustris</i>	N	
CHIRPOTERA			
Unidentified bats		Y	√ ^d
Little Brown Myotis	<i>Myotis lucifugus</i>	Y	√ ^d
Yuma Myotis	<i>Myotis yumanensis</i>	Y	
Long-Eared Myotis	<i>Myotis evotis</i>	Y	
Fringed Myotis	<i>Myotis thysanodes</i>	Y	
Long-Legged Myotis	<i>Myotis volans</i>	Y	
Western Small-Footed Myotis	<i>Myotis ciliolabrum</i>	Y	
Silver-haired Bat	<i>Lasiorycteris noctivagans</i>	Y	√ ^d
Big Brown Bat	<i>Eptesicus fuscus</i>	Y	√ ^d
Hoary Bat	<i>Lasiurus cinereus</i>	Y	√ ^d
Townsend's Big-Eared Bat	<i>Corynorhinus townsendii</i>	Y	√(prob.) ^d
LAGOMORPHA			
Pika	<i>Ochotona princeps</i>	N	
Mountain Cottontail	<i>Sylvilagus nuttallii</i>	Y	√
Snowshoe Hare	<i>Lepus americanus</i>	N	
White-Tailed Jackrabbit	<i>Lepus townsendii</i>	Y	√
RODENTIA			
Least Chipmunk	<i>Tamias minimus</i>	N	
Yellow-Pine Chipmunk	<i>Tamias amoenus</i>	Y	√
Red-Tailed Chipmunk	<i>Tamias ruficaudus</i>	N	
Yellow-Bellied Marmot	<i>Marmota flaviventris</i>	Y	√
Richardson's Ground Squirrel	<i>Spermophilus richardsonii</i>	Y	√
Columbian Ground Squirrel	<i>Spermophilus columbianus</i>	Y	√
Golden-Mantled Ground Squirrel	<i>Spermophilus lateralis</i>	Y	
Black-Tailed Prairie Dog	<i>Cynomys ludovicianus</i>	N	
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	Y	√
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	Y	
Northern Pocket Gopher	<i>Thomomys talpoides</i>	Y	√
Beaver	<i>Castor canadensis</i>	N	
Deer mouse	<i>Peromyscus maniculatus</i>	Y	√
Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>	Y	
Bushy-Tailed Woodrat	<i>Neotoma cinerea</i>	Y	√
Southern Red-Backed Vole	<i>Clethrionomys gapperi</i>	Y	√
Heather Vole	<i>Phenacomys intermedius</i>	N	
Meadow Vole	<i>Microtus pennsylvanicus</i>	Y	
Montane Vole	<i>Microtus montanus</i>	Y	

Appendix I (continued)

<u>Common Name</u>	<u>Scientific Name</u>	<u>Preferred Habitat Occurs in LHTA^a</u>	<u>Recorded in LHTA</u>
Long-Tailed Vole	<i>Microtus longicaudus</i>	Y	
Water Vole	<i>Microtus richardsoni</i>	N	
Sagebrush Vole	<i>Lemmyscus curtatus</i>	Y	
Muskrat	<i>Ondatra zibethicus</i>	N	
Western Jumping Mouse	<i>Zapus princeps</i>	N	
Porcupine	<i>Erethizon dorsatum</i>	Y	√
CARNIVORA			
Coyote	<i>Canis latrans</i>	Y	√
Gray Wolf	<i>Canis lupus</i>	N	
Red Fox	<i>Vulpes vulpes</i>	Y	√
Black Bear	<i>Ursus americanus</i>	Y	
Grizzly Bear	<i>Ursus arctos</i>	N	
Raccoon	<i>Procyon lotor</i>	Y	√
American Marten	<i>Martes americana</i>	N	
Fisher	<i>Martes pennanti</i>	N	
Short-Tailed Weasel	<i>Mustela erminea</i>	N	
Long-Tailed Weasel	<i>Mustela frenata</i>	Y	
Mink	<i>Mustela vison</i>	N	
Wolverine	<i>Gulo gulo</i>	N	
Badger	<i>Taxidea taxus</i>	Y	√
Striped Skunk	<i>Mephitis mephitis</i>	Y	
Northern River Otter	<i>Lutra canadensis</i>	N	
Mountain Lion	<i>Puma concolor</i>	Y	√
Lynx	<i>Lynx canadensis</i>	N	
Bobcat	<i>Lynx rufus</i>	Y	
ARTIODACTYLA			
Elk	<i>Cervus elaphus</i>	Y	√
Mule Deer	<i>Odocoileus hemionus</i>	Y	√
White-Tailed Deer	<i>Odocoileus virginianus</i>	Y	
Moose	<i>Alces alces</i>	N	
Pronghorn	<i>Antilocapra americana</i>	Y	√
Mountain Goat	<i>Oreamnos americanus</i>	N	
Mountain Sheep	<i>Ovis Canadensis</i>	Y	√

^aNomenclature, distribution and habitat preferences from Montana Bird Distribution Committee 1996; Hart et al. 1998; Foresman 2001; Holton and Johnson 2003; Maxell et al. 2003; Montana Natural Heritage Program 2004

^bSee Appendix C for habitat type descriptions

^cHabitat possibly present

^dButts (1995, 1997), WESTECH (1997)

APPENDIX J
INTEGRATED CULTURAL RESOURCE MANAGEMENT PLAN UPDATE
AND SUMMARY



Montana Army National Guard Integrated Cultural Resource Management Plan Summary and Update of Limestone Hills Training Area ICRMP

The Montana Army National Guard completed its Integrated Cultural Resources Management Plan (ICRMP) in 2002. This plan provides a framework for the MTARNG to meet its obligations under federal and state cultural resources legislation and agency guidelines. It applies to all MTARNG facilities throughout the State of Montana, including the Limestone Hills Training Area (LHTA), which is the subject of this LEIS. Section 5 of the ICRMP provided an overview of the MTARNG's cultural resource management program prior to 2002, as well as recommendations that would strengthen the program. It also included a list of specific actions that should be undertaken within the guard's two primary training areas, the LHTA and Fort Harrison.

As stated in the 2002 ICRMP, the goal of the MTARNG's cultural resource program over the next ten years is to meet all its Section 106 responsibilities as well as those associated with Native American consultation. The ICRMP included seven recommendations for MTARNG Headquarters in order to support the development of its cultural resource program. Five of the recommendations are pertinent to the discussion of the MTARNG's ability to manage cultural resources within the LHTA and are as follows:

ICRMP Recommendation (1) Designate a Cultural Resource Manager (CRM). As the first point of contact for all cultural resource issues, the Cultural Resource Manager (CRM) will initiate and implement the SOPs. At a minimum, the CRM will take an introductory course to the Section 106 process.

MTARNG Response: In 2002, the MTARNG designated a CRM. Following is a list of training/classes attended by the CRM between 2002 and 2005:

- October of 2002 - National Preservation Institute- Introduction to Section 106 - Tempe, Arizona
- May of 2003 - University of Nevada Heritage Resources Management Program -Section 106 Review - Helena, Montana
- June of 2003 - National Guard Bureau - Native American Consultation Workshop - Logan, UT
- July of 2004 - Duke University and the University of Montana Law School - Tribal Consultation - Missoula, Montana
- November of 2005 - State of Montana - State Tribal Consultation - Helena, Montana

In addition, the MTARNG CRM attends the National Guard Bureau's annual National Environmental Workshop which includes sessions on updating managers on cultural resource policy. The CRM has also received training in public outreach and National Environmental Policy Act (NEPA) classes on integrating Section 106 into the NEPA process.

In addition to designating a CRM, in 2002, the MTARNG established on-call contractual relationships with two professional cultural resource consulting firms for purposes of completing Section 106 and Section 110 project work. The Montana Department of Military Affairs administers the contracts, which are awarded and/or renewed every two years.

ICRMP Recommendation (2) Develop a cultural landscape approach to cultural resources planning. When undertaking new compliance inventories, and when reevaluating previous inventories, systems of related resources should be evaluated in terms of their larger landscape context.

MTARNG Response: Since 2002, the MTARNG has funded cultural resource inventory and evaluation projects at both Fort Harrison and the LHTA. In each case, the methodology for recording both pre-contact and historic resources has been to document all evidence of human impact on the landscape.

ICRMP Recommendation (3) Establish Standard Operating Procedures for Compliance with Cultural Resource Legislation. The Standard Operating Procedures (SOPs) should reference pertinent legislation and regulations, list the agencies and personnel responsible for initiating action, and, in some instances, establish a time frame for the consultation process.

MTARNG Response: The MTARNG developed six SOPs, each of which deals with specific triggering events, including: (1) new construction and other ground-disturbing activities; (2) maintenance, repair, alteration and demolition of historic buildings and structures; (3) inadvertent discoveries; (4) discovery of human remains; (5) curation procedures; and, (6) tribal consultation. (The full text of the SOPs included in the 2002 ICRMP are appended to the end of this update.)

Recommendation (4) Continue Tribal Consultation. During preparation of the ICRMP, the MTARNG solicited comments from the eight federally recognized tribal governments in Montana and Idaho, with cultural affiliation to the geographic area that includes Fort Harrison and the LHTA.¹ During that initial consultation only the Confederated Tribes of the Flathead Indian Reservation indicated that they were interested in being consulted regarding MTARNG activities within either facility.

MTARNG Response: Since 2002, the MTARNG has continued tribal consultation with the eight federally recognized tribal groups as well as the Little Shell Band of Chippewa for a variety of NEPA projects, including the Legislation Environmental Impact Statement being prepared for the proposed LHTA military withdrawal.

Recommendation (5) Establish a Cultural Resource "Layer" in the MTARNG's Geographic Information System. The creation of a GIS layer that shows the boundaries of previously recorded cultural resource properties will aid the CRM in his/her compliance responsibilities.

¹ Tribal governments contacted regarding the preparation of this ICRMP included: Blackfeet Tribal Business Council, Crow Tribal Council, Fort Belknap Community Council, Fort Peck Tribal Executive Board, Nez Perce Tribal Executive Committee, Northern Cheyenne Tribal Council, Salish and Kootenai Tribal Council, and Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho.

MTARNG Response: Data regarding previously recorded cultural resource properties gathered during the preparation of the ICRMP has been incorporated into a cultural resources data layer in the MTARNG's GIS database. However, most of the locational data derives from the Butte District of the Bureau of Land Management's records, and had never been field checked. Therefore, all new guard-sponsored inventories have included the provision that the location of cultural resource properties be recorded with GPS. New, more accurate locational data for cultural resource properties is added to the MTARNG GIS cultural resource data layer as it becomes available.

In addition to the policy and task-specific recommendations for MTARNG Headquarters, the ICRMP identified baseline cultural resource tasks to be completed at the guard's two principal training areas—Fort Harrison and the LHTA. Recommendations for additional cultural resource investigations in the LHTA included assessing the adequacy of the previous baseline cultural resource inventory conducted in 1979 and resolving the National Register eligibility of all previously recorded cultural resource properties.

MTARNG Response: In 2005, the MTARNG contracted for the resurvey of a twenty percent sample (roughly 4,000 acres) of the land located within the LHTA and the relocation and testing of 11 additional sites located outside the sample area. The survey methodology for the 2005 inventory conforms to current BLM standards and guidelines and included subsurface testing, when necessary, to make recommendations of eligibility. This project will accomplish two things: it will check the accuracy of the 1979 inventory and will resolve the eligibility of both previously and newly recorded sites within the inventory area. The results of this inventory will be available in December of 2006. It will be submitted to the Montana State Historic Preservation Office for review.

In accordance with guidance from NGB, the MTARNG intends to continue to update the cultural resource inventory within the LHTA and to resolve the National Register eligibility of cultural resource properties as funds become available. The MTARNG is able to use the term contracts negotiated by the Montana Department of Military Affairs with two cultural resource consulting firms to complete both Section 106 and Section 110 work.

SOP I. New Construction and other Ground-Disturbing activities.

This SOP provides guidance for assessing the effects of ground disturbing activities on cultural resources. New construction, if it occurs in previously undisturbed areas, has the potential to affect cultural resources. Specific examples of activities that trigger this SOP include the construction of a new building, structure or road, or the expansion of the impact area associated with a live-fire zone. The intent of this SOP is to provide guidance to MTARNG personnel that results in the minimization of impact to National Register-eligible or listed properties, while allowing training missions to continue.

Pertinent Statute(s), Eos, Policy Statements and Regulations

Principally the NHPA and associated regulations of the Advisory Council on Historic Preservation (36 CFR 800). Other statutes that may apply include: NAGPRA (depending upon the character of the affected cultural resource property), EO 13175, White House Memorandum, April 29, 1994, AR-200-4, Department of Defense Annotated American Indian Policy

Personnel responsibilities

Proposals for projects requiring ground-disturbing activity may come from a variety of individuals within the MTARNG. For example, the Deputy Chief of Staff, Engineering (DCSENG) may propose the construction of a new water line, or the upgrading of a previously existing line. Similarly, the Training Site Manager (TSM) may require the construction of a new firing platform, or the expansion of the live-fire zone in the Limestone Hills Training Area. Although these proposals come from different directorates, both would require review by the CRM to determine if the project has the potential to affect National Register-eligible or listed cultural resource properties. The procedures outlined below are, in effect, the procedures required to complete the Section 106 compliance process, taking into consideration the relationship of the MTARNG to the various landowners with holdings in the Fort Harrison and Limestone Hills training areas and in the various LTAs. It is critical that proponents of specific projects consult with the CRM early in the planning process in order to avoid delays in meeting the MTARNG training mission. Determining effect, devising appropriate mitigation procedures and implementing mitigation can extend the Section 106 consultation period.

Procedures

MTARNG project proponent(s) [Engineering Directorate, Training Site Manager, etc.] shall consult with the CRM when new projects involving new construction and/or ground disturbing activities are first introduced. Proponents will submit a description of the project and a timetable for completion to the CRM. Ideally, this should occur early in the planning process to avoid project delays. For projects that are determined undertakings and that require and inventory and/or evaluation of cultural resource properties, environmental review may take 90 to 120 days. For projects that result in a "determination of adverse affect," and development and implementation of a mitigation plan, environmental review may take another 90 to 120 days.

If the CRM determines that the project does not constitute an undertaking, the project may proceed. Determining whether or not an individual project constitutes an undertaking will be accomplished in 5 working days. Larger submittals with multiple projects will take longer, depending upon the number and completeness of the project descriptions.

If the CRM determines that the project constitutes an undertaking, then he/she shall, in consultation with the SHPO/THPO and other interested parties, determine the area of potential effect (APE) associated with the undertaking.

The CRM will then check the GIS database to determine if the APE has been inventoried for cultural resources. If the APE has been adequately inventoried and if no National Register-eligible cultural resource properties are located within it, then the project may proceed. (Reviewing the GIS database for a single project will be accomplished in 5 working days.)

If eligible or listed properties are located within the APE, the CRM shall assess the effects of the undertaking on the properties following the procedures outlined in 36 CFR 800.5. The assessment of effect should be conducted in consultation with pertinent federal and/or state landowners, the Montana SHPO, and interested parties such as the Confederated Salish and Kootenai Tribal Historic Preservation Office (CS&K THPO).

If the agency official arrives at a determination of "no adverse effect," but other consulting parties disagree with this finding, the consulting parties or the SHPO may request comment from the ACHP. The ACHP has 15 days to indicate whether it will comment.

If the undertaking will adversely affect the significant character-defining features of a National Register-eligible or listed property, the CRM will notify project proponents to determine if the project can be redesigned in order to avoid the properties. If a project can be redesigned to avoid adverse effects, then it can proceed. Avoidance of eligible/listed historic resources will always be the preferred alternative.

If eligible properties cannot be avoided, the CRM will arrange for the completion of a treatment plan that mitigates the adverse effects of the undertaking on the eligible/listed resources. Plans will vary depending upon the character of the affected property and the level of project-related effects. The preparation of the mitigation plan should be carried out in consultation with the Montana SHPO, with representatives of pertinent federal and/or state landowners, and with the CS&K THPO. Generally, the SHPO/THPO will have 30 days to review a mitigation plan. The ACHP will have 15 days to indicate whether or not it wants to comment on the mitigation plan.

Once the plan has been prepared, reviewed, and approved by all relevant parties, it may be codified in a memorandum of agreement (MOA). Signatories to the MOA will include the installation commander and/or agency official, the SHPO and the ACHP (if participating). Depending upon the undertaking, the CS&K THPO may also be invited to sign as a consulting party. Refusal to sign on the part of the SHPO or CS&K THPO shall not invalidate the MOA.

If the APE has not been inventoried, or if previous inventories are outdated or inadequate, then the CRM shall consult with the Montana SHPO and federal landowners to initiate the inventory process.

If the proposed undertaking occurs on federal lands administered by either the BLM or the USACE, then the CRM shall contact the agency representative to determine the appropriate level of investigation. If the undertaking occurs on state land, the CRM shall contact the Montana Department of Natural Resources and Conservation (DNRC), to determine the appropriate level of investigation. If the undertaking occurs on private land, the CRM shall contact the Montana SHPO to determine the appropriate level of investigation.

After determining the appropriate level of investigation, the CRM will arrange for the completion of a Phase III inventory of the APE. A report detailing the results of the inventory shall be prepared in accordance with (IAW) the SOI Standards and Guidelines for the Identification and Evaluation of Historic Resources. The report must contain clear, unambiguous recommendations regarding the National Register-eligibility of all cultural resource properties identified within the APE.

The CRM or federal agency representative shall submit the report of findings to the Montana SHPO for review and compliance purposes. If prepared by a consultant, the report shall be submitted to the SHPO under a cover letter that states whether or not the CRM or federal agency representative agrees with the consultant's eligibility recommendations. The Montana SHPO and/or THPO has 30 days to review the report and respond to the agency regarding whether they agree or disagree with the eligibility recommendations. If the Montana SHPO and the agency representative both agree on the eligibility of the properties within the APE (if they have reached a consensus determination of eligibility [CDOE]) then the assessment of the effects of the undertaking can proceed according to the steps outlined above.

In the event that the agency representative and the SHPO/THPO cannot resolve adverse effects to historic properties, the head of the agency must request that the ACHP (Council) comment according to the provisions of 800.7.

SOP 2: Maintenance, Repair, Alteration and Demolition of Historic Buildings and Structures (as defined by the National Register)

This SOP provides guidance for the treatment of historic buildings. The intent of this SOP is to ensure that maintenance of historic resources, especially those located within the Fort Harrison Training Area, will be conducted in a manner that retains the historic character-defining features of the National Register-eligible resources. Pending completion of a cultural landscape analysis, this SOP will apply primarily to the buildings at Head Ranch, and the buildings used by the Montana Military History Museum. A consensus determination of eligibility has been reached for the Head Ranch buildings; the evaluation process has not been completed for other buildings located at Fort Harrison.

Pertinent Statute(s), Regulations and Guidelines

36 CFR 800; EO 13006; NHPA; Secretary of the Interior's Standards and Guidelines; National Register guidance.

Personnel Responsibilities

As the head of facilities management, the DCSENG shall be responsible for maintaining the historical character-defining architectural features of National Register-eligible or listed buildings under the control of the MTARNG.

The CRM shall ensure that eligible and listed historic buildings are designated in the cultural resource layer of the GIS database, and that they are flagged and historic resources in the PRIDE database.

Procedures

All work orders, maintenance requests, and/or contracts affecting historic buildings will be flagged to identify the building as protected under the NHPA. All MTARNG activities that may result in any physical modification or alteration of historic buildings are subject to review by the CRM in consultation with the Montana SHPO.

Maintenance procedures and material replacement must be IAW the Secretary's Standards.

When maintenance requires procedures or materials that are not in compliance with the Secretary's Standards, the CRM will notify the ACHP and consult with the SHPO. A description of the proposed action will be made available to such members of the interested public who may request a copy.

Notification of proposed MTARNG actions will be submitted to the SHPO and the ACHP sufficiently in advance of the project to afford the ACP 15 calendar days for review and comment. If the written concurrence of the SHPO is not received by the CRM within 30 calendar days, and the ACHP has not otherwise objected to the findings of the APM/CRM, or if the ACHP objects but proposes changes that the CRM accepts, the Section 106 process shall be considered complete, and the undertaking may proceed.

In instances where the MTARNG determines that a proposed action is necessary to the installation mission or otherwise decides to proceed with an undertaking that will result in adverse effect to a historic building, a MOA must be drafted to mitigate the adverse effects of the action. If the MTARNG and the Montana SHPO cannot agree on terms for the MOA the CRM will request ACHP comments and notify all other consulting parties of the MTARNG action.

Demolition of eligible buildings is always considered an adverse effect. When demolition of a historic building is planned, the Montana SHPO must be consulted for coordination and recommendations regarding appropriate mitigation procedures. In all cases where demolition of a historic building is planned, a MOA must be in effect prior to the initiation of demolition.

Economic Analysis

AR 200-4 requires that historic buildings and structures that are being considered for demolition and replacement be subject to an economic analysis that explores the fiscal ramifications of reuse or replacement decisions. The NHPA requires that historic properties be considered for reuse to the maximum extent feasible. The decision to reuse, replace, or demolish a facility needs to be justified

with a least cost, lifecycle analysis. When the economic analysis demonstrates that rehabilitation costs for historic property exceed 70% of the building's replacement cost, replacement construction may be used. However, the 70% value may be exceeded where the significance of a particular historic building warrants special attention, or if warranted by the lifecycle cost comparisons. The assessment of new construction must evaluate life-cycle maintenance cost and replacement cost as alternatives. Replacement cost shall not be based on replacement in kind, but shall be based on a design that is architecturally compatible with the historic property. If the building to be disposed of is an historic property, potential reuses of the building must be analyzed prior to making the final decision to dispose of the property.

Note that lifecycle analysis often assumes a 20-year lifecycle for materials. Given the correct circumstances, however, some elements of historical buildings may have lifecycles that approach 50 to 70 years. Cost-benefit analyses usually overlook this. Software to aid in completion of some types of analyses (mothballing and window replacement/repair) is available on line at www.aec.army.mil.

SOP 3: Inadvertent Discoveries

This SOP provides guidance to MTARNG personnel in the event that cultural resource properties are inadvertently discovered during the conduct of MTARNG-sponsored activity. The procedures will ensure that the MTARNG will minimize disturbance to properties found in this manner, assess the significance of the discovery, and implement appropriate mitigation measures for significant resources. In the event of the discovery of human remains and associated cultural material, the MTARNG shall ensure that all appropriate measures are implemented to protect the remains, that agencies are promptly notified of the find, and that all other applicable federal and state procedures are followed. Failure to report inadvertent discoveries, especially the discovery of prehistoric archaeological resources, may result in violations of NAGPRA, ARPA or other federal and state laws, resulting in fines and penalties against the MTARNG and the installation commander.

Pertinent Statute(s)

NAGPRA, ARPA and NHPA on federal land; NHPA for federally supported actions on state and private lands; Montana Antiquities Act for state supported actions on state lands; Montana Human Skeletal Remains and Burial Site Protection Act on state and private lands.

Personnel Responsibilities

Inadvertent discoveries may be made during virtually any ground disturbing activity, by MTARNG personnel or by contractors hired to work on a specific agency-sponsored undertaking. It will be the responsibility of the DCSENG and the TSM to alert facility engineers, project foremen, and other people directly in charge of field activities of the possibility of such discoveries, and the procedures for which they are responsible in the event of an inadvertent discovery. Since inadvertent discoveries are possible during training events, the TSM shall ensure that all MTARNG personnel, as well as visiting regular Army units are provided with a copy of the Soldier's Handbook on Environmental Protection, which contains a section on cultural resources.

In the event of an inadvertent discovery, the person in charge of the activity will stop work immediately and notify their directorate head, either the DCSENG or the TSM, who will then notify the CRM. Field personnel will be responsible for securing the site from further disturbance.

The CRM will be responsible for notification of the appropriate federal, state, and private landowners, and other interested parties, included but not limited to CS&K THPO, and the Montana SHPO. (See procedures below.)

Procedures

In the event that archaeological deposits are discovered during MTARNG-sponsored training or contract activities, the activity shall cease immediately. Unless the impacting activity is prompted by an actual emergency (natural disaster or declaration of war), the impacting activity must stop until consultation with the Montana SHPO and/or the ACHP is completed. The soldier/contractor locating the site shall create a buffer zone around the site. The size of the zone will be dependent upon the character of the site, and it may not be possible for the person locating the site to establish an appropriate boundary. The soldier or contractor shall notify range control, who will notify the CRM. The CRM will review the buffer zone and amend it as needed. The MTARNG-sponsored activity can proceed outside the buffer zone, once it is verified as sufficient by the CRM and secured by range control.

The CRM will begin notification within 24 hours of being informed of the inadvertent discovery. Initial contacts to the SHPO, THPO and any other federal landowners shall be made by phone followed by written notification within 48 hours. Written notification should include an explanation of the conditions under which the site was discovered, a description of the resource(s) discovered, and the actions taken by the MTARNG in response to the discovery.

The CRM will arrange to have a professional archaeologist review the discovery site within 48 hours of the initial find. If the discovery site is located on BLM land, the BLM District Archaeologist will be asked to conduct the field review. If the discovery site is on state land, the DNRC archaeologist will be asked to conduct the review. If the discovery site is located on USACE or private land, or if the BLM/DNRC archaeologist cannot perform the work, the CRM may be required to hire a consultant to review the site. A representative of the CS&K THPO shall also be afforded the opportunity to review the discovery site within this 48-hour period. The CRM will coordinate with the agency representative (BLM, USACE, DNRC), in responding to requests from other interested tribal representatives to visit discovery sites.

If the field review by a professional archaeologist indicates that the supposed cultural material results from natural processes, then the CRM will notify all of the parties included in the original notification. This notification can be done initially by phone but shall be followed by written notification. Once all parties have been notified, the CRM will inform the project manager that the activity may proceed.

If the results of the field review indicate that archaeological materials are present, then the CRM will contact the Montana SHPO to obtain concurrence on the eligibility of the site – based upon the

recommendation of the professional archaeologist. The CS&K THPO and other interested parties shall be given the opportunity to comment on the eligibility of the property. If the property is determined ineligible, the CRM will notify the project manager that the activity may proceed.

In some cases the eligibility of the property cannot be determined simply by examining the discovery site – especially if the property is a deeply buried archaeological site. In instances such as these, an emergency testing program may be devised in order to collect sufficient data to determine eligibility of the resource. The testing program must be designed and implemented by a professional archaeologist (either a federal agency archaeologist or a consultant hired under contract). Since it is desirable to quickly resolve the eligibility of sites discovered under these circumstances, the CRM may request that SHPO and CS&K THPO representatives be available on site to confer directly on the assessment of site eligibility.

If the property is determined eligible, the following actions are available:

- Attempt to relocate the project in order to avoid adverse effect to the property.

- Develop a MOA for mitigating the adverse effects of the undertaking through a data recovery plan. In instances in which the data recovery plan is limited in scope, and if the SHPO is amenable, the MTARNG and the agency representative may elect to proceed without a MOA. However, all aspects of the mitigation will be fully documented and reported to the SHPO in a written report at the termination of mitigation efforts.

- When Native American remains have been discovered in an archaeological context, or when it is likely that such remains will be disinterred from an archaeological site, the installation commander shall ensure that the provisions of NAGPRA and all other federal and state statutes and regulations are met (see SOP No. 4). [Note: NAGPRA is relevant only to federally owned lands. The Montana Human Skeletal Remains and Burial Site Protection Act covers all unmarked burials on state and private land.]

- Neither the BLM nor the USACE can delegate its NAGPRA responsibilities to the MTARNG. In instances where human remains, funerary objects, sacred objects, or objects of cultural patrimony are present, the federal land managing agency must be involved in consultation and decision-making regarding the disposition of these remains. However, the CRM may act as the representative of the installation commander during consultation.

SOP 4: Discovery of Human Remains

The discovery of human remains on lands used by the MTARNG may occur in the future. In such cases, a variety of state and federal legislation is applicable depending upon the ownership of the land on which the remains are located, as well as the context in which the remains are found. For example, the discovery of human remains that are demonstrably the result of a recent criminal activity demands a different response than the discovery of human remains encountered during the deliberate testing or mitigation of an archaeological site. Similarly, the ultimate disposition and treatment of the remains will vary.

Pertinent Statute(s)

- 1) NAGPRA; for Native American remains and associated funerary items located on federal lands.
- 2) Montana Human Skeletal Remains and Burial Site Protection Act; for all unmarked burials on state and private land.

Personnel Responsibilities

Army Regulation 200-4 states that the installation commander must ensure that intentional excavation and response to any inadvertent discovery of NAGPRA-related cultural items are undertaken in compliance with all applicable statutory and regulatory requirements of NAGPRA, ARPA, NHPA, AIRFA, the Religious Freedom Restoration Act, and White House Memorandum on Government-to-Government Relations, April 29, 1994. Although there is no specific guidance relative to the two state laws, the installation commander has responsibility for ensuring that the provisions of state legislation are adhered to. The installation commander may delegate his/her responsibilities to the CRM.

The MTARNG Public Affairs Officer (PAO) shall be responsible for responding to inquiry from outside agencies and/or individuals.

Procedures

A. Discovery of human remains on federal lands

The MTARNG employee or contractor who discovers human remains must stop the activity and make a reasonable effort to protect the human remains and any associated objects, and notify the installation commander within 24 hours (see below). Protection of the remains will include the establishment of a 100-meter buffer zone around the location site.

If the discovery is made during a training exercise, the soldier finding the remains will notify the unit commander who will notify range control to make sure that the buffer zone is secure. If a civilian contractor makes the discovery, he/she will notify the MTARNG contracting officer (CO), who will contact range control. Once the buffer zone is secure, the training/contract activity may continue outside the buffer zone.

The unit commander or the CO will notify the CRM of the discovery. The CRM will inform the installation commander. The installation commander shall notify the federal agency representative.

The federal agency representative is principally responsible for the consultation that follows the initial contact IAW 43 CFR 10.4(b) (NAGPRA regulations). However, the installation commander or his/her representative, the CRM, shall be included in consultation. [Note: If the federal agency has not negotiated a comprehensive agreement (CA) to cover the inadvertent discovery of human remains, then there is a mandatory, 30-day cessation of activity in the area of the discovery, and consultation to determine the cultural affiliation of the remains.]

The installation commander shall also notify the county coroner of the discovery if there is a concern that the remains are associated with a recent prosecutable crime or an accidental death. [The federal agency representative may want to do this.]

If it is determined that the human remains occur within an archaeological context, then the procedures outlined in SOP No. 1, including the evaluation of the National Register eligibility of the site, shall be followed.

B. Discovery of human remains on state or private lands

The MTARNG employee or contractor who discovers human remains must stop the activity and make a reasonable effort to protect the human remains and any associated objects, and notify the installation commander within 24 hours.

The installation commander shall notify the county coroner immediately. The coroner has two working days to determine if the remains are subject to any provisions of law concerning the investigation of the circumstances, manner and cause of death. If the remains are not subject to his/her authority, the coroner must notify the Montana SHPO within 24 hours. The Montana SHPO has 24 hours to notify the landowner as well as the member of the Burial Preservation Board representing the nearest reservation.

Within 36 hours of notification the Burial Preservation Board shall designate a representative to conduct an initial field review (with the permission of the landowner). The field review must include: a determination of whether the site can be preserved, negotiation with the landowner concerning onsite reburial or disinterment and reburial, and a recommendation and timetable for final treatment or disposition of the remains.

SOP 5: Curation Procedures

IAW the requirements of 36 CFR 79, Curation of Federally owned and Administered Archeological Collections, AR 200-4 requires the MTARNG Adjutant General to ensure that all archaeological collections and associated records, as defined in 36 CFR 79.4(a), are processed, maintained and preserved. However, since archaeological collections usually are the property of the landowner, and since MTARNG activities occur principally on lands leased from other federal agencies, it is unlikely that the MTARNG will be responsible for curation of archaeological collections. Rather, the BLM and the USACE are responsible for establishing curation agreements with appropriate repositories. The BLM has its own curation facility. The USACE, however, has no curation agreement in place.

Pertinent Statute(s) Regulations(s)

36 CFR 79, Curation of Federally owned and Administered Archeological Collections; AR 200-4.

Personnel Responsibilities

The installation commander or his/her designated representative, the CRM, shall be responsible for negotiating agreements for curation of archaeological collections.

Procedures

The CRM shall, in consultation with the USACE, negotiate a curation agreement with a state repository, museum, university, or other approved facility for final curation of artifact collections and associated records removed from federal land administered by the USACE.

The CRM shall, in consultation with the DNRC representative, negotiate a curation agreement for final curation of artifact collections and associated records removed from state land.

Contracts for conducting archaeological surveys or excavations will include a provision for the curation of collected artifacts at USACE-, BLM-, or DNRC-designated facilities.

SOP 6. Tribal Consultation

A variety of statutes, executive orders and policy statements require the MTARNG to consult with Native American Tribes on a government-to-government basis. For this reason, it shall be the policy of the MTARNG to initiate a sustained program of tribal consultation.

One goal of tribal consultation will be to identify "spheres of influence" for the various tribes, i.e., identify portions of the state that interest various tribes, thereby refining consultation on MTARNG-sponsored projects in specific parts of the state with specific tribal governments. As the MTARNG completes cultural resource inventory projects identified in the 5-year plan, it will forward copies of the reports to interested tribes for comment. It will consult with various tribes as interested parties, regarding data recovery plans and memoranda of agreement, and will integrate, to the maximum extent feasible, comments generated by the tribe. Note that neither the State Historic Preservation Office, nor Tribal Historic Preservation Offices have veto authority over conclusions reached in archaeological survey and/or excavation reports.

Pertinent Statute(s)

NEPA; NHPA (NAGPRA) (AIRFA) Executive Order 13007; Indian Sacred Sites 1996; White House Memorandum dated April, 29 1994; Executive Order 13175; Memorandum: Department of Defense, October 27, 1999

Personnel Responsibilities

Unless relieved of the duty by a "Tribal Liaison" appointed by the installation commander, the CRM will be responsible for coordinating and the tribal consultation program. All correspondence with tribes will be submitted under the signature of the installation commander (TAG).

Procedures

At the beginning of each fiscal year, the CRM will compile a list of new projects and policies relevant to cultural and natural resource issues. The list may include projects proposed for the improvements to existing training areas, for the expansion of training facilities or changes in training area activities. The list of projects and a description of the work that they entail will be sent to the chairperson of the eight federally recognized tribal governments in Montana, under signature of the TAG. In addition to the annual consultation, tribes will be offered the opportunity to comment on new proposals as they are submitted to the CRM throughout the fiscal year. If the MTARNG does not receive a response to the written correspondence, the MTARNG should follow up with a phone call.

APPENDIX K
CULTURAL RESOURCE STUDIES IN THE LHQA



Appendix K
Cultural Resources Properties located in the Limestone Hills Training Area

Site Number	Site Type	Cultural Unit	Investigation Methods	Collection Location	NRHP Status	Reference
24BW61	burial, grave of Charity Dillon; habitation, stone circles	historic: Euro-American; unknown prehistoric	survey, surface collection	unknown	Not Eligible	BLM files
24BW63	habitation, lithic scatter	prehistoric: Oxbow, Pelican Lake, Besant, Late Prehistoric; Historic: Euro-American	survey, surface collections, amateur collections	Montana State University; Helmick Private Collection	Recommended Ineligible	Davis, et al. 1980
24BW124	faunal scatter	unknown	survey, surface collection	BLM curation facility-Billings	Unknown	BLM files, state site records
24BW204	Historic Mining District	Historic Euro-American	Intensive Research	N/A	Consensus DOE; Ineligible	BLM files, state site records
24BW207	historic bridge	historic: Euro-American	survey	N/A	Not Eligible	GCM 1994, state site files
24BW293	lithic scatter	unknown prehistoric	survey	BLM curation facility-Billings	Not Eligible	BLM files, state site records
24BW296 / 24BW688	historic painted sign	historic: Euro-American	survey, extensive research	N/A	Listed in Register July 8, 1981	Davis, et al. 1980; McCormick 1997; Stoner 1981
24BW458	habitation	unknown prehistoric; unknown historic	survey	N/A	Recommended Ineligible	BLM files, state site records
24BW628	rock piles	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et al. 1980
24BW629	stone alignments, game drive	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et al. 1980
24BW630	Habitation, stone circles	prehistoric: Late Prehistoric, Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW631	habitation, stone circles, foundation, mining pit	prehistoric: Late Prehistoric, Pelican Lake; Historic Euro-American	survey, surface collections, test excavations, amateur collections	Montana State University; Helmick Private Collections	Recommended Ineligible	Davis, et al. 1980
24BW632	lithic scatter; habitation	prehistoric: Pelican Lake; Historic Euro-American	survey, amateur collections	Montana State University; Helmick Private Collection	Recommended Ineligible	Davis, et. al 1980
24BW633	stone alignment, game drive	unknown prehistoric	survey	n/a	Recommended Ineligible	Davis, et al. 1980
24BW634	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW636	quarry, lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980

Appendix K
Cultural Resources Properties located in the Limestone Hills Training Area

Site Number	Site Type	Cultural Unit	Investigation Methods	Collection Location	NRHP Status	Reference
24BW637	habitation, stone circles	unknown prehistoric	survey, surface collections	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW638	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW641	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW642	lithic scatter, rock piles	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW643	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW644	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW645	lithic scatter	prehistoric: Late Prehistoric	survey, surface collections	Montana State University	Recommended Ineligible	Davis, et. al 1980
24BW646	rock pile	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et. al. 1980
24BW647	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW648	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW649	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW650	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW651	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW652	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW653	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW654	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW655	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW656	habitation, rockshelter	prehistoric: Late Prehistoric	survey, surface collections, test excavations	Montana State University	Recommended Ineligible	Davis, et. al. 1980
24BW657	rock pile	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et. al. 1980
24BW658	lithic scatter	prehistoric: Pelican Lake	survey, surface collections	Montana State University	Recommended Ineligible	Davis, et. al. 1980

Appendix K
Cultural Resources Properties located in the Limestone Hills Training Area

Site Number	Site Type	Cultural Unit	Investigation Methods	Collection Location	NRHP Status	Reference
24BW659	lithic scatter; habitation, ruins	unknown prehistoric; historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW660	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW661	habitation, stone circles; historic ruins	unknown prehistoric; historic: Euro-American	survey, surface collection, test excavations	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW662	habitation, stone circles	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et al. 1980
24BW663	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW664	ovoid rock feature	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et al. 1980
24BW665	rock pile	unknown prehistoric	survey	N/A	Recommended Ineligible	Davis, et al. 1980
24BW666	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW667	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW668	lithic scatter	prehistoric: Pelican Lake	survey, intensive surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW669	lithic scatter	prehistoric: Pelican Lake	survey, intensive surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW670	quarry, lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW671	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW672	lithic scatter	unknown prehistoric	survey, surface collections	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW673	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW674	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW675	habitation, stone circles	prehistoric: Besant, Pelican Lake, Avonlea, Late Prehistoric	survey, surface collections, extensive excavations	Montana State University	Recommended Eligible/ Mitigated	Davis, et al. 1980; Davis 1983, Aaberg 1983
24BW676	lithic scatter	unknown prehistoric	survey	Montana State University	Recommended Ineligible	Davis et al. 1980

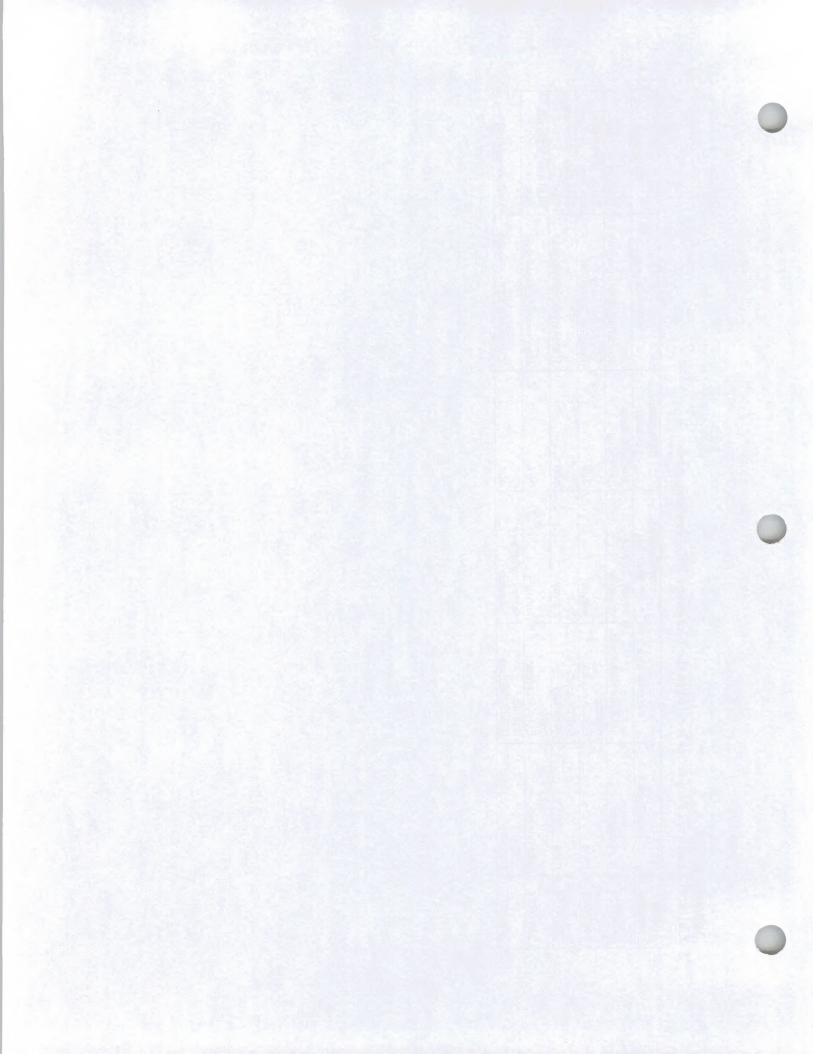
Appendix K
Cultural Resources Properties located in the Limestone Hills Training Area

Site Number	Site Type	Cultural Unit	Investigation Methods	Collection Location	NRHP Status	Reference
24BW677	lithic scatter	unknown prehistoric	survey, test excavations	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW678	lithic scatter	prehistoric: Oxbow, Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW679	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW687	habitation, rockshelter	prehistoric: Pelican Lake	survey, surface collections, test excavations	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW705	habitation, stone circles	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW708	rock pile, lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW709	stone pile	unknown prehistoric	survey	N/A	Consensus DOE – Ineligible 8/15/94	Davis et al. 1980
24BW710	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Consensus DOE – Ineligible 8/15/94	Davis et al. 1980
24BW711	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Consensus DOE – Ineligible 8/15/94	Davis et al. 1980
24BW712	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW713	lithic scatter, fcr	prehistoric: Besant	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW714	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW715	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis, et al. 1980
24BW716	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW717	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW718	lithic scatter	prehistoric: Pelican Lake	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW719	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW720	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW721	habitation, ruins	historic: Euro-American	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW722	ovoid rock feature	unknown	survey	N/A	Recommended Ineligible	Davis et al. 1980

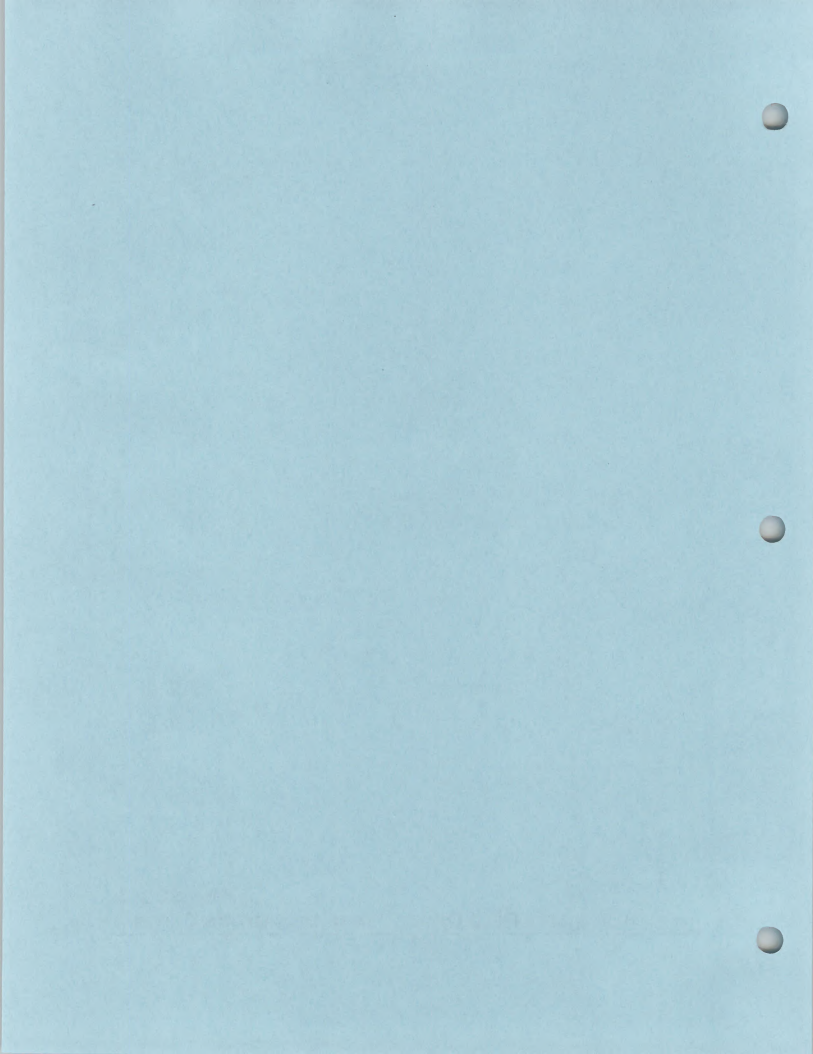
Appendix K

Cultural Resources Properties located in the Limestone Hills Training Area

Site Number	Site Type	Cultural Unit	Investigation Methods	Collection Location	NRHP Status	Reference
24BW723	lithic scatter	unknown prehistoric	survey, surface collection	Montana State University	Recommended Ineligible	Davis et al. 1980
24BW758	mine	historic: Euro-American	survey	N/A	Consensus DOE - Ineligible 8/15/1994	Wood 1994, state site files
24BW793	mine	historic-Euro-American	survey	N/A	Recommended Ineligible	BLM files, state site files
24BW794	gold dredge	historic: Euro-American	survey	N/A	Recommended Ineligible	BLM files, state site files
24BW876	historic painted sign	historic: Euro-American	survey, extensive research	N/A	Consensus DOE -Eligible	McCormick 1997



APPENDIX L
BLM BUTTE FIELD OFFICE DRAFT ACQUISITION CRITERIA



ACQUISITION CRITERIA

The following criteria will be used to evaluate proposals which would result in the acquisition of non-Federal lands and/or interest in lands through exchange, fee purchase, donation or other transactions. Priority will be determined on the basis of multiple-use analysis. The greater the number of resource programs and public values served, the higher the priority for acquisition. All proposals will be evaluated to determine if the non-Federal lands meet any of the following specific criteria:

1. Contain moderate to high resource values and/or characteristics.
 - Land along rivers, streams, lakes, dams, ponds, springs, and trails
 - Riparian areas, community watersheds and/or flood plains
 - Areas that contain T&E species of wildlife or aquatic or vegetation
 - Areas with special status wildlife species, or aquatic species or vegetative species
 - Important general wildlife habitat areas
 - Recreation sites and areas
 - Significant cultural resource sites
 - Geologic areas containing unique and/or scarce features
 - Areas with important or unique forest/woodland values
 - Other areas containing moderate to high resource values and/or characteristics
2. Have the potential for enhancement, manageability or investment opportunity of existing BLM administered lands.
3. Facilitate access to BLM administered land retained for long-term public use.
4. Enhance congressionally designated areas, rivers or trails.
5. Primarily focused in the "retention" areas. (Acquisition outside of retention areas may be considered if the action leads to and/or facilitates long-term needs or program objectives).
6. Facilitate National, state and local BLM priorities or mission statement needs.
7. Will enhance existing or future activity plans on BLM administered land.
8. Stabilize or enhance local economies or values.
9. Meet long-term BLM land management goals as opposed to short-term BLM land management goals.
10. Are of sufficient size to improve use of adjoining BLM administered land or, if isolated, large enough to allow for the identified potential public land use.
11. Allow for more diverse use, more intensive use, or a change in uses to better fulfill the Bureau's mission.
12. Enhance the opportunity for new or emerging BLM administered land uses or values.
13. Contribute to a wide spectrum of uses or large number of public land users.
14. Secure for the public significant water related land interests. These interests will include lake shore, dam shore, river front, stream, and pond or spring sites.

15. Consolidate mineral estates with surface estates to improve potential for development while improving resource management and economic values of existing BLM administered lands.

Avoid the following when considering acquisition proposals:

Acquiring lands or interests in lands that present management problems that outweigh the expected benefits of such an acquisition, including but not limited to:

- presence of hazardous materials
- abundance of noxious weeds
- access situation is inadequate for managing the property for the purpose(s) for which it would be obtained, etc.
- acquisition of small, isolated tracts

INTRODUCTION

On July 17, 2007 the Montana Army National Guard (Montana Guard) and the U.S. Department of the Interior, Bureau of Land Management (BLM) issued the draft legislative environmental impact statement (LEIS) for the proposed withdrawal of the Limestone Hills Training Area (LHTA). The Department of Defense's Notice of Availability (NOA) for the draft LEIS was published in the Federal Register and was posted to EPA's website at

<http://www.epa.gov/fedrgstr/EPA-IMPACT/2007/July/Day-17/i3472.htm>. The document was sent to local, state and federal government organizations, private organizations, and members of the general public.

A 90-day public comment period was held on the document, ending on October 19, 2007. As part of the document review process, two public meetings were held on the proposed project on Tuesday, August 21, at the Lewis and Clark Public Library large conference room in Helena, Montana and on Wednesday, August 22, at the Townsend Public School Community Room in Townsend, Montana. Approximately 30 people attended the public meetings. A court reporter was present at the public meetings and documented the spoken comments. A verbatim transcript was produced and is part of the project record.

Eight letters were received during the comment period from local, state, and federal government agencies and offices, and eight letters and emails were received from the general public. In these letters and emails the Agencies identified 98 comments.

Summary of Issues:

- Support for Specific Alternatives – several commenters expressed support for specific alternatives

- Concerns about Cultural Resources Management
- PILT
- Grazing Management
- DoD Management
- UXO Obligation
- Role of COE
- Hazardous Materials Management (water purification, UXO)
- NEPA Compliance (legal sufficiency, preparers)
- ROW
- Waiver
- Takings
- MOA
- Engle Act
- Alternatives Selection
- Consistency

The Agencies reviewed all comments on the draft legislative environmental impact statement (LEIS). Many of the comments required that the text of the final LEIS be corrected, clarified, or otherwise revised. Each comment was reviewed for content and relevance to the environmental analysis and data contained in the draft LEIS and addressed accordingly.

In this section the Agencies present responses to comments received on the draft legislative environmental impact statement (EIS) for the Limestone Hills training Area Withdrawal. Government agency letters are presented first, in the order in which they were received. Letters from the general public are presented next, in the order in which they were received. The letters are reproduced in their entirety with the responses to the comments presented to the side.



MONTANA HISTORICAL SOCIETY

225 North Roberts • Box 201201 • Helena, MT 59620-1201
 • (406) 444-2074 • FAX (406) 444-2060 • www.montahistorysociety.org

Friday, August 10, 2007

Richard Hodeling
 BLM Butte Field Office

Stanley Putnam
 HG, MT National Guard

RE: 07/2007 draft Legislative EIS LHTA Withdrawal

Dear Sirs:

Thank you for requesting our comment regarding the above referenced draft EIS. Neither the e-mail letter nor the document itself requests that we review the EIS under the provisions of 36 CFR 800.3 which allows one of the NHPA process for section 106 of the National Historic Preservation Act (NHPA) purposes if parties agree. Resolution of the 106 process need be completed before a NHPA ROD and while all options remain viable. Please inform us as to how section 106 will be addressed. We have made this request before (please see our correspondence of Oct. 2002 attached).

Comment 1

As we have commented previously, we believe the proposed action is an undertaking with the potential to affect Historic Properties. We note that all proposed action alternatives have some potential for adverse effects (see Table N-5, issue section 4.8.3). While it is stated that the MT ANG would be required to meet same requirements as the BLM under the NHPA under the preferred alternative, and we do not agree that it would not, we are concerned that agency resources for meeting those requirements are not the same for the MT ANG as for the BLM. For example, BLM management is permitted on the BLM National PA and State Protocol using a cultural resource specialist meeting the Secretary of the Interior Standards for Historic Preservation. This alternative program meeting the BLM's NHPA responsibilities is set forth under a national PA which has been reviewed and accepted by the Advisory Council on Historic Preservation (ACHP), and the state protocol by the MT NHPD. The MT ANG has neither a cultural resource specialist meeting the standards nor an accepted PA protocol.

Comment 2

Appendix J of EIS/MP 2003, the "plan" is referenced as the operating procedure for meeting the MT ANG's NHPA responsibilities. The plan as presented in Appendix J states it applies to all MT ANG's actions and properties. We are concerned that MT ANG interpretations of section 106 under the plan have not been consistent with the regulations and have been overly narrow. For example, treatment of MT ANG armories (e.g. Bozeman and Helena) has not followed the outlined plan or section 106 processes, based

Comment 3



STATE HISTORIC PRESERVATION OFFICE • 1410 9th Ave • 201 Box 201202 • Helena, MT 59620-1202
 • (406) 444-7715 • FAX (406) 444-0375

Response 1: Since receiving Wilmoth's letter of August 10, 2007, the MTARNG Cultural Resource Manager has consulted with representatives of the Montana State Historic Preservation Office regarding the issue of meeting section 106 compliance standards. Because the U.S. Congress will act as the final decision-maker in the LEIS process, a representative of the MTARNG will contact the DoD representative at the ACHP to clarify the 106 process with regard to this undertaking. We assume that the process and documentation associated with preparation of a Legislative EIS for the US Congress will be used to comply with section 106 in lieu of the procedures set forth in 800.3 through 800.6.

Response 2: The BLM and the MTARNG disagree regarding response to this comment.

MTARNG finds that the proposed LHTA military withdrawal meets the definition of an undertaking. However, with regard to the question of which agency will ultimately manage cultural resources within the LHTA, we believe that the undertaking, which is a federal to federal transfer of management responsibilities, does not, in and of itself, have the potential to affect historic properties (see 24CFR800.3 (a)(1)).

If the MTARNG assumes responsibility for management of cultural resources in the LHTA, it would not, for the foreseeable future, propose an alternative program for meeting its section 106 responsibilities. Rather, it will follow the procedures set forth in 36CFR800.3 through 800.6. Although many agencies have instituted programmatic agreements that streamline the regular 106

process, following that regular process remains acceptable and does not, in and of itself, constitute an adverse effect to cultural resources.

Regarding the statement that the MTARNG does not have a cultural resource specialist meeting the Secretary of the Interior's standards, the MTARNG Cultural Resource Manager (CRM) does meet some standards by virtue of having more than five years of cultural resource management experience. Given that many cultural resource investigations are multi-disciplinary, it follows that any one person may not possess all the educational requirements that would qualify him or her as a principal investigator for "history," "architecture," and "archaeology." By way of example, the majority of USDA Forest Service and BLM cultural resource personnel have their academic degrees in anthropology/archaeology, yet they are often tasked with documenting and assessing the architectural significance of historical buildings, and preparing contextual materials for evaluating historical resources, or with reviewing the adequacy of contractor's work in the fields of history and architecture. In the past, and for the foreseeable future, the MTARNG intends to continue its practice of contracting with SOI qualified cultural resource management consultants to complete special project work that may be required to meet its section 106 and 110 responsibilities. If the MTARNG CRM requires guidance beyond contractual services, he or she may request the support of National Guard Bureau (NGB) Cultural Resources Specialists from the Army Readiness Center in Arlington, Virginia.

BLM disagrees, contending that while the proposed withdrawal may begin with a "federal to federal agency" transfer, once the COE leases the lands to the MTARNG land management responsibilities fall to the State of Montana, creating the need for the MTARNG and the MTSHPO to enter into the programmatic agreement.

Response 3: Regarding the disposal of the Bozeman and Helena armories; those actions were undertaken by the Montana Department of Military Affairs (a state agency) not the MTARNG. The armories, which were built with state funds and which were entirely the property of the State of Montana, were transferred from state ownership to private and state entities respectively. There was simply no federal tie of any kind that triggered section 106 compliance under the National Historic Preservation Act. It was not a unilateral decision by the MTARNG. Rather it was the agency following the appropriate established procedures for State properties.

Regarding the wording in the ICRMP summarizing the section 106 process; it is worth reiterating that the protocols described in the ICRMP are not meant to redefine or to serve as an alternative program to the process. They are meant to attach specific responsibilities to specific positions within the MTARNG, so that these responsibilities are not overlooked during guard-sponsored activities.

Comment 3
Continued

on the claim that proposed actions were state rather than "federalized." This sort of track record of picking and choosing section 106 responsibilities is a serious concern.

Additionally, it is not clear that the plan itself follows standard 106 procedures which is necessary without an Advisory Council approved alternative program. As we have commented in the past the wording in the H-RMP summarizing the section 106 process is ambiguous and misleading (see for example our comments of April 2004).

With regards to the LHTA that applicable to all Army NGA actions and properties covered by the plan the lack of a cultural resource specialist meeting SOI standards as evidenced by the lack of a current inventory and documentation of Historic Properties, it is likely true that the 1980 inventory, which forms the basis of inventory for the LHTA, characterizes the range of cultural resources in the area. As is mentioned in the plan the 1980 report does not meet current standards for intensity, documentation or evaluation. Yet in the plan a CRM (not meeting the SOI standards) would necessarily rely on such a baseline to make judgments about adequacy of inventory and the likelihood of eligible Historic Properties, or the eligibility of new properties in future APEs. That is a source of potential adverse effects not addressed in the EIS. So while may be technically correct to say the MT ANGs would be required to meet the same BLM section 106 regulatory needs it is simply not true that the Guard has the same resources with which to meet those needs. The 2000 recheck inventory may address some portion of the inventory need but it has not yet been submitted for review so is non-existent for the purposes of reviewing this action or any other under 106.

Comment 4

Comment 5

I have attached our previous comments regarding this and above reiterated concerns. We suggested that the ACTIP D-703 Susan Sarah Killinger be consulted regarding their finding on the Council's appropriate level of involvement and BLM ANO findings under section 106.

Comment 6



Stan Wilmoda, Ph.D.
State Archaeologist/Deputy, SHPO

Response 4: Please see second half of response to Comment No. 2

Response 5: This comment once again raises issues of the qualifications of the CRM and the adequacy of the 1980 inventory report. Early in the process of preparing the draft LEIS the MTARNG and the BLM agreed that the 1980 inventory was sufficient to characterize the cultural resources for purposes of NEPA documentation. With regard to satisfying section 106 requirements, we question whether a complete re-inventory of the LHTA is necessary given the character of the undertaking. Basically, the undertaking as described is primarily a change in management responsibilities. With the exception of a few ground-disturbing actions (fencing and sign placement) and some relocation of training area boundaries, the MTARNG would, under the proposed action, continue to use the LHTA in the same manner as it has previously. Future proposals for changes in use or new actions will be evaluated as to whether or not they are undertakings under the NHFA. If proposed changes meet the definition of an undertaking, and the undertaking is determined to have the potential to affect historic properties, the MTARNG would not automatically rely upon outdated inventories to assess the effects on historic properties, but would initiate the consultation process with the Montana SHPO. Consultation would involve identification of an appropriate area of potential effects (APE), and an assessment of the adequacy of previous inventory efforts within the APE.

Regarding the inadequacy of the 1980 baseline survey, the 2003 ICRMP included recommendations to update baseline inventories in MTARNG training areas (not just the LHTA) where previous inventories do not meet current standards, and to resolve the National Register eligibility of previously recorded sites whose eligibility status is undetermined. This recommendation accords with guidance from NGB, which recommends that all state Army National Guards update their baseline cultural resource inventories. This includes completing inventories in un-inventoried areas and updating previous inventories to current standards. The MTARNG has already contracted for the completion of the re-survey of 20 percent of the lands included in the current LHTA. The report describing the results of that survey was submitted to, and accepted by, the BLM in the spring of 2007. The MTARNG provided the Montana SHPO with a copy of the report in November of 2007.

Besides the sample re-survey of the LHTA, the MTARNG has prepared interpretive brochures for several National Register-eligible historic properties located on lands either owned or leased for training purposes. The interpretation of cultural resources satisfies at least partially, section 110 requirements and indicates a commitment to cultural resources beyond section 106 compliance.

The fact that the MTARNG has implemented many of the recommendations in the 2003 ICRMP indicates that it does have the resources to complete the types of inventory and evaluation projects that may be required to meet section 106 and 110 responsibilities. As stated previously, if the MTARNG assumes management of cultural resources within the LHTA, most large-scale inventory and

evaluation and potential mitigation projects will be implemented through the use of SOI-qualified contract cultural resource consulting companies. Again, if the MTARNG CRM does require input on the eligibility of recorded properties beyond contracted services, assistance is available from NGB Cultural Resource Specialists at the National Readiness Center in Arlington, Virginia.

Response 6: Thank you for your suggestion. As this is a Legislative EIS and the Council is the primary federal policy advisor to Congress, it is likely that they will be asked to review proposed legislation prior to a Congressional decision.

Copy

Monday, April 19, 2004

SUNDI WEST
ENVIRONMENTAL OFFICE
MI DEPT OF NATURAL AFFAIRS
MICHIGAN GUARD

RE: DRAFT LIMESTONE HILLS RMP (08/03)

Sundi

Your recent efforts to organize a BLM/SHIP Guard summit slowly precipitated my deciding to share my margin notes concerning the draft RMP by e-mail of last year. I do not know if the Guard ever asked for or received a copy of these notes but thought that it was a place to begin again. Anyway the following are my observations and best advice to whoever is willing to read them as of about August 2003.

Two general observations:

The plan seems obviously to have started out as a management plan for two specific facilities, the Limestone Hills and Fort Harrison. At some point it morphed into a plan for the Guard throughout the state. The metamorphosis is incomplete however and the plan suffers as a result. For example most facilities appear one or twice on tables (including Fort Missoula). The Bozeman Army repeatedly will be replaced by a new facility in 2002. What will happen to the old one? I don't think the plan indicates any thought or plans. LTAs are late and seemingly incomplete additions. *(Knowing now what has happened since makes this point even more pertinent from our perspective)*

The ALHP tends to want to see PAs for other opportunity to comment (consult) whenever decisions are made before other resources or effects are identified and committed, there are proposed changes to basic CFR 800 procedures, or there are proposed modifications or streamlining for tribal and public opportunities for involvement. As written the plan potentially precludes all the above except apparently an opportunity for the Council to comment.

Page 19 - the Montana Reputation Act MCA 23-3-901 then 921 has been omitted.

Page 65 - offers a clear and useful description of the potential problems/limitations of relying on CUB. Seattle and lack of completion of several post compliance effects. Resolution however is unclear here.

Page 66 - typo first sentence second paragraph section 5.2

Page 66 - while agency officials carrying out responsibilities of the NHPA are not required to meet the SOI standards they are required to see that the work meets those standards (CFR 800.211, NHPA section 112(a)(1)(A)). The commitment to staff a CRM position is a definite

improvement. Having a CRM without SOI background will likely make it more difficult to insure the standards are met, possibly even knowing when to ask questions, but particularly in advising which undertakings have the potential to effect, adequacy of previous archaeological inventory, adequacy of historic structure documentation, eligibility calls etc.

Page 67 - good point about possible on-going, cumulative if indirect effects not being currently considered as part of facility maintenance upgrades under 100 responsibilities.

Page 68 - several facilities nearing the 50-year limit are scheduled for improvements - section 110 planning considerations, adaptive reuse, and potential for anticipatory effects should be incorporated into plan.

Page 69 - 5.2.2 it would be a mistake to limit consultation to "NSI" regarding potential priorities or effects. One and possibly two Medicine Sun lodge ceremonies associated with the Chippewa Cree apparently took place on or near the Fort Harrison grounds although I have no further details as it was mentioned confidentially in passing to me several years ago. Tribal opportunities to participate should extend beyond an initial non response (as is clear here) *(i.e. page 67)*.

5.2.3 in addition to not having covered state and private lands, and not identifying historic (rather than prehistoric) resources the Davis et al. 1980 inventory does not meet current methodological intensity standards. It cannot be assumed to be adequate for future or on-going ground disturbing activities particularly in areas not previously disturbed.

Page 70 - the WACU inventory by Keller et al. 1985 was intensive for proposed ground disturbing areas only. It is not adequate for new or future ground disturbance elsewhere on the training area. No inventory is on record here for other LTAs mentioned.

Page 71 - Currently at least at the Limestone Hills other activities that might affect cultural resources are managed by BLM programs such as mineral recreation, fire and range. With all multi-use of such area cease or how would those activities be built into the Integrated Plan? Some Guard proposals are mentioned in passing in one sentence at 6.1.2. I suggest more elaboration here would be helpful.

Page 72 - First paragraph wherein it states "For projects that are determined undertakings and would (more closely) follow the statutory and regulatory usage and intent if it stated read, "For projects determined to be undertakings with the potential to effect historic Properties. Same at second and third paragraph. As it currently reads it implies that much of what the Guard does is not an undertaking when in fact that is what they do. The question for the CRM will most often be when does what we do have the potential to effect HPS? I think a point of major on-going miscommunication could be resolved by changing the definition of Undertaking in the Plan's glossary to correctly reflect current regulatory definition (800.162) and long standing broader and more inclusive statutory definition (16 U.S.C. 470a, sec. 2601-73). As the plan reads now Undertaking in the first sentence of the definition (page Appendix A-3) is "Any project activity that can result in changes in the character or use of historic Properties. . . . I suggest that is now misleading and should be deleted. The 800 regulations that previously used those words have been changed. The second sentence correctly reflects the current regulatory definition. I do not understand intent of the last sentence since undertakings continue to be undertakings whether or not sections 100 considerations have been previously made, continue or have been completed. What needs to be conveyed here is that as agents of the federal government most of what the Guard does is a federal undertaking. When they permit, approve etc.

the actions of others these action become undertakings. The CRM's big job is to review undertakings to see which might affect cultural resources. Sometimes that is obvious i.e. approving a cash machine in a new PA is an undertaking for someone (ICC, and maybe the Guard too?) but it has no potential effects.

Page 72 - since there is no PA or other work proposed for the ACHP to consent with alternative procedures the procedures in SHIP I should follow the regulations. They do not as written

4th paragraph - if a determination of no properties affected is made, appropriate documentation (800.11(d)) must be submitted for SHPO consultation. There is a 30-day comment period; the agency may not simply proceed as stated. 800.10(d). The matter could be referred to the Council if disagreement existed.

5th 6th paragraphs omit the evaluation step of consultation entirely. 800.11 Again there is a 30-day comment period. The issue of eligibility could be referred to the Keeper of the National Register if disagreement existed. There is a 30-day review comment for SHPO if a No Adverse Effect is proposed, the project cannot proceed just because adverse effects may have been avoided.

7th paragraph if an adverse effect is found it is the agency (Guard) not the proponent who is responsible (it is at that point a Guard undertaking). If the paragraph is meant to imply that if a No Adverse Effect is found the project may proceed - that is incorrect but that is ambiguous as written. One way or the other if there are any kind of (good or bad) possible effects to eligible properties SHPO would have 30 days here.

8th paragraph if properties cannot be avoided and effects are found in consultation to be adverse, a treatment plan is required, but not for any effects as written. Why are only the C&I to be consulted? There are two other THPs in the state as well as a number of other tribes with active cultural communities. It seems likely that the Crow and Cheyenne might be more interested in WACO sites than the CS&I.

Page 73 - given the above referenced weaknesses with existing inventory and the lack of a NOI standards (IRM, consultation with SHPO as well as tribes and owners is in order when assessing inventory adequacy or strategy. This could happen at the No Properties Affected documentation step if not before, but most people involved would be far happier if a disagreement were known early. Paragraphs here dealing with inventory and eligibility evaluations would I think more properly belong in regulatory sequence on the previous page around paragraph 3 and 6.

Page 75 - SOP for maintenance and material replacement must also follow 800.7-5 in lieu of a PA. 6.2.3 does not follow the 800 procedures. I recommend that Pete Brown of our office be requested to assist in formulating this language. Historic Preservation Plans involving structures normally are based on detailed structure reports of a standardized nature. Historic Structure Reports are not referenced here. Have any been completed? Are any proposed? Whether in kind materials are used and whether or not NOI standards are followed in the absence of a PA consultation on possible effects are required, such as negative inventories and No Properties Affected documentation is spelled out in the regs.

Page 78 - recommend reference to broader Native American consultation rather than the CS&I alone, as above. How will other interested parties be identified in an inadvertent discovery?

Page 79 - last paragraph is correct in regard to the inability of BLM or USNAC to delegate NAGPRA responsibility. Ultimately the same applies to 106 responsibilities outside a few agencies such as BLD, sometimes EPA, and ACHP approved alternative programs. This may again point to an area where a PA would be beneficial.

Page 83 - I would recommend sending materials to and/or telephoning Tribally appointed cultural commissions, committees or other cultural representatives in addition to the Executive Officers of each tribe if there is a sincere interest in a response.

Page 84 - NIPPA is primarily an effects disclosure act while NHPA requires the opportunity for actual public and tribal participation. The requirements of one do not generally suffice for the other. In particular CE's are not recognized in the NHPA. Consultation under 106 is required even where "sites are minimally disturbed (page 80) - CE's and Records of Environmental Considerations simply do not substitute for 106 consultations (see 800.10(b). The use of CE's and other NHPA documents for the purposes of or in lieu of 106 has strict requirements found at 800.8 that should be included here. ROD's and EONSI are in and of themselves undertakings, decisions that often have the potential to affect Historic Properties, and when that is the case, findings and determinations should be made prior to making a final decision on a NIPPA document (unless a PA stipulates how those will be carried out in the future after the decision is made).

orig. signed
Stan Wilmoth, Ph.D.
State Archaeologist Deputy, SHPO

File BLM Limestone Hills
DOD ARMY GAREDKRAMP

Copy

Thursday, March 04, 2004

Sundi West
MT Dept of Military Affairs
MT National Guard - Environmental

Dear Ms. West:

In reply to your phone call of 03/03/2004 to Mark Baumer I offer the following information. Yes our office did receive LT Col. Walter's correspondence dated 12/15/03. We received it 01/14/04. I then contacted Carolyn Kieley at the BLM Butte Field office with questions regarding any changes in lead agency status from the BLM perspective. I received a reply from Carrie on 01/22/04 wherein she stated that the BLM continued to be the lead agency for section 106 consultation, that the BLM would assess effects as the 106 lead and as the land managing agency under TMAPA. She also added that at that point the BLM believed the ICRMP as written would constitute an Adverse Effect. They anticipated consulting with MT SHPO once alternatives were identified in the Guard's LERs and a revised ICRMP was submitted. This response was supported by Gary Smith's (BLM State Office) memo of 07/14/03 where he stated clearly and strongly the BLM would be lead for 106 - submitting documentation, scheduling meetings and moving the process along - once a revised ICRMP was developed. The BLM and the Guard apparently do agree that the BLM is a cooperating agency in the FEIS. Beyond that I don't know.

If the BLM has changed its opinion on the matter they have not notified us. If you have new information in that regard we would appreciate seeing it. But I do not believe it is possible in light of this situation to consult with the Guard as the lead section 106 agency in terms of assessing effects. Surely this would be clear if it were the Forest Service saying they were the lead for an undertaking on BLM land and the BLM objected. We could, I suppose, continue to offer opinions on revisions of the ICRMP, and possibly FEIS alternatives as they might affect Cultural Resources - as a form of technical assistance recognizing that formal 106 comment would require the above basic issue to be resolved.

Sincerely,

Orig. signed

Stu Wilmouth, Ph.D.
State Archaeologist/Deputy, SHPO

Copy: Walter NGB, Kieley BLM

Copy

Friday, October 10, 2003

SUNDI WEST
LIGHT AND WITHDRAWAL MANAGER
MT ANG FORT HARRISON
POB 4789
HIFLENA MT 59604-4789

Dear Ms. West:

Thank you for inviting MT SHPO to participate as a cooperating agency in the NEPA process for the BLM transfer of the Limestone Hills Training Area. It is difficult for me to assign staff to such a role at this time. We are interested in providing information, technical assistance or review comments as appropriate. In line with our primary review mandate we generally participate in these sorts of projects under Section 106 of the National Historic Preservation Act.

As you know from communications with the BLM (for example Gary Smith to Alan Wormser 07/14/2003) the BLM intends to consult with our office as the lead agency regarding Section 106 considerations. We anticipate that under the BLM Programmatic Agreement, or case-by-case Section 106 review, all section 106 consultations would be complete prior to a NEPA ROD. Under this scenario we are not sure we need to become a formal NEPA cooperating agency.

The BLM has not to best of our knowledge ruled out proceeding to consider the possible effects of this transfer under 36 CFR 800.8 wherein the NEPA ROD would be used to comply with Section 106. However, neither the MT SHPO or the ACHP (to the best of our knowledge) have been notified of such a intention. If following review and consultation among all interested parties (as per Gary Smith's email above), of a revised ICRMP or other preservation documents, it is found that the BLM intends to proceed under 800.8, it may also be determined that our role in the NEPA process should be expanded. If this undertaking moves in that direction we would be happy to reconsider your kind invitation at that time.

Sincerely,

Orig. signed
Mark Baumer, Ph.D.
State Historic Preservation Officer

File BLM Limestone Hills

OFFICE OF THE GOVERNOR
STATE OF MONTANABRIAN SCHWEITZER
GOVERNORJOHN BUEHLER
LT. GOVERNOR

Response 7: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.

August 27, 2007

Major General Randy Mosley
MT Army National Guard
PO Box 4789
Fort Harrison, MT 59630-4789

RE: Draft Legislative Environmental Impact Statement for the proposed Withdrawal of Limestone Hills

Dear General Mosley:

As Governor of the State of Montana, I would like to comment on the draft Legislative Environmental Impact Statement (LEIS) for the proposed withdrawal of Limestone Hills Training Area located two miles west of Townsend, Montana.

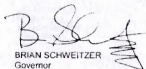
A withdrawal, as both a change of jurisdiction from the Bureau of Land Management to the Department of the Army and for reserving an area for a particular purpose, appears to be the only means to adequately authorize the continued military training at Limestone Hills after the expiration of the current Right-of-Way in 2014. I, Brian Schweitzer, support the proposed withdrawal.

In the draft LEIS Alternative Three, the agencies preferred alternative, has seven appealing key elements:

1. Montana Army Guard would continue training beyond 2014
2. Current training operations would continue
3. Unexploded Ordnance clearance by the Montana Army Guard would continue
4. Grazing concerns are addressed
5. Broadwater county would receive a lump sum for the loss of Payment in Lieu of Taxes (PILT)
6. Aqueducts would only be with willing sellers
7. An additional 388 acres would be available for public use

I believe that by balancing the needs of the Montana Army National Guard with the needs of the majority of stakeholders, the agencies preferred Alternative Three offers the best choice for a win-win situation. Alternative Three has my full support.

Comment 1


BRIAN SCHWEITZER
Governor

STATE CAPITOL • P.O. BOX 24001 • HELENA, MONTANA 59620-0011
TELEPHONE: 406-444-3111 • FAX: 406-444-5529 • WEBSITE: WWW.MT.GOV

OFFICE OF THE GOVERNOR
STATE OF MONTANA

BRYAN SCHULTZ
GOVERNOR



JOHN BOHLINGER
L. GOVERNOR

August 27, 2007

Major General Randy Mosley
MT Army National Guard
PO Box 4789
Fort Harrison, MT 59636-4789

RE: Draft Legislative Environmental Impact Statement for the proposed Withdrawal of Limestone Hills

Dear General Mosley:

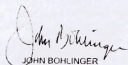
As Lieutenant Governor of the State of Montana, I would like to comment on the draft Legislative Environmental Impact Statement (LEIS) for the proposed withdrawal of Limestone Hills Training Area located two miles west of Townsend, Montana.

A withdrawal, as both a change of jurisdiction from the Bureau of Land Management to the Department of the Army and for serving an anti for a particular purpose, appears to be the only means to adequately authorize the continued military training at Limestone Hills after the expiration of the current Right-of-Way in 2014. I, John Bohlinger, support the proposed withdrawal.

In the draft LEIS Alternative Three, the agencies preferred alternative, has seven appealing key elements:

1. Montana Army Guard would continue training beyond 2014
2. Current mining operations would continue
3. Unexploded Ordnance clearance by the Montana Army Guard would continue
4. Grazing concerns are addressed
5. Broadwater County would receive a lump sum for the loss of Payment in Lieu of Taxes (PILT)
6. Acquisitions would only be with willing sellers
7. An additional 366 acres would be available for public use

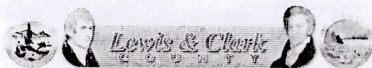
I believe that by balancing the needs of the Montana Army National Guard with the needs of the majority of stakeholders, the agencies preferred Alternative Three offers the best chance for a win-win situation. Alternative Three has my full support.


JOHN BOHLINGER
Lieutenant Governor

Comments

STATE CAPITOL • P.O. BOX 200801 • HELENA, MONTANA 59620-0801
TELEPHONE: 406-444-3371 • FAX: 406-444-5529 • WEBSITE: WWW.MT.GOV

Response 8: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.



BOARD OF COUNTY COMMISSIONERS

Andy Humthausen Michael A. Murray Ed Timley

City County Building 316 North Park Helena, Montana 59623 406.447.8304 Fax: 406.447.8370

Sarah West
MT Army National Guard-Environmental Division
PO Box 4789
Fort Harrison, MT 59636-4789

August 29, 2007

**Re: Draft Legislative Environmental Impact Statement for the Proposed
Withdrawal of Limestone Hills**

Dear Ms. West:

Lewis and Clark County would like to comment on the draft Legislative Environmental Impact Statement (LEIS) for the proposed withdrawal of Limestone Hills Training Area located two miles west of Townsend, Montana.

A withdrawal, as both a change of jurisdiction from the Bureau of Land Management to the Department of the Army and for reserving an area for a particular purpose, appears to be the only means to adequately authorize the continued military training at Limestone Hills after the expiration of the current Right-of-Way in 2014. As such, Lewis and Clark County is in support of the proposed withdrawal.

In the draft LEIS Alternative Three, the agencies preferred alternative, has seven appealing key elements:

1. Montana Army Guard would continue training beyond 2014.
2. Current mining operations would continue.
3. Unneeded military clearance by the Montana Army Guard would continue.
4. Granting permits would be for 20 years and a council would help resolve routes.
5. Broadwater county would receive a lump sum for the loss of Payment in Lieu of Taxes (PILOT).
6. Acquisitions would only be with willing sellers.
7. An additional 388 acres would be available for public use.

[Continued](#)

By balancing the needs of the Montana Army National Guard with the needs of the majority of stakeholders, the agencies preferred Alternative Three offers the best chance for a win-win situation. Alternative Three has Lewis and Clark County support.

Sincerely,

Michael A. Murray, Chairman

Ed Timley

Andy Humthausen

200TH ANNIVERSARY OF THE LEWIS & CLARK EXPEDITION

Response 9: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.

BROADWATER COUNTY
Board of County Commissioners
Office 406-266-9701 Fax 406-266-9776
115 BROADWAY
TOWNSSEND, MONTANA 59644

COMMISSIONERS
James V. Hobbs - Chairman
K. C. Eakin
Gail M. Verney



Response 10: Thank you for taking time to review the
Limestone Hills Training Area Land Withdrawal Draft
Legislative EIS. Your comment is appreciated.

September 10, 2007

Ms. Sundi West
MT Army National Guard-Environmental Division
PO Box 4789
Helena, MT 59604-4789

RE: Limestone Hills Training Area Proposed Withdrawal

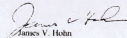
Dear Ms. West:

Comment 10

At our Commissioners meeting today, our board voted unanimously to support Alternative 3 of
the Limestone Hills Training Area proposed withdrawal.

If you have any questions, please feel free to contact me.

Sincerely,


James V. Hobbs
Chairman of the Board

:/at



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 50, Room 1002
P.O. Office Box 25007 (D-100)
Denver, Colorado 80225-0007



October 4, 2007

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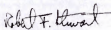
Ms. Sundt West
MTARNG, Fort Harrison
P.O. Box 4789
Helena, MT 59604-4789

Comment 11

Dear Ms. West:

The Department of the Interior has reviewed the Draft Legislative Environmental Impact Statement for the Limestone Hills Training Area Land Withdrawal, Montana, and has no comments on the document.

Sincerely,


Robert F. Stewart
Regional Environmental Officer

cc: Mary L. Figarella, Bureau of Land Management

Response 11: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.

 United States Department of Agriculture	Forest Service	Helena National Forest	2880 Skyway Drive Helena, MT 59602 406.449.5201
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File Code: 2670
Date: October 15, 2007

Sundi West
Land Withdrawal Program Manager
Montana Guard - Fort Harrison
PO Box 4789
Helena, MT 59604

Dear Sundi

Thank you for the opportunity to comment on the draft Limestone Hills Training Area (LHTA) Withdrawal and Draft Legislative Environmental Impact Statement (DLEIS). The Helena National Forest abuts lands administered by the Bureau of Land Management (BLM) Butte Field Office, a portion of which comprises the LHTA. We welcome the opportunity to provide feedback that will facilitate seamless management of natural resources between the Montana Army National Guard (MTARNG) and the Helena National Forest.

For several years, the BLM Butte Field Office, Montana Fish, Wildlife, and Parks (FWP), and the Beaverhead-Deerlodge and the Helena National Forests have managed the Elk Horns cooperatively as the Elk Horns Cooperative Management Area (ECMA). This cooperation has allowed the Helena National Forest to achieve our goals and objectives per our Forest Plan designation of that area as a Wildlife Management Unit. It is from that perspective that we provide comments to the DLEIS – i.e. our comments focus on management compatible with the goals and objectives of the Elk Horns Wildlife Management Unit on the Helena National Forest.

Specifically, our comments focus on *Wildlife Management, Fire Management, Grazing, and Mitigation*.

Comment 12

- Wildlife Management* – The Action Alternatives vary in their approach to management of wildlife and their habitats. Under Alternatives 1 and 2, the MTARNG would be responsible for wildlife management and would rely on contracted services for wildlife studies and reports. The MTARNG proposes to coordinate with FWP to manage wildlife habitat to meet the needs of the State of Montana and the MTARNG mission. Under Alternative 2, the MTARNG would rely on contracted services for the closure area while the BLM would continue to manage the new closure area. We are primarily interested in consistent wildlife habitat management within the ECMA as this facilitates our ability to achieve our Forest Plan goals and objectives for the Elk Horns Wildlife Management Unit. Any of the three action Alternatives could achieve this objective; however, given that other BLM-administered lands are adjacent to and in the vicinity of the LHTA, Alternative 2 might best achieve the overall objective of consistent management of wildlife and their habitats in ECMA.

Comment 13

- Fire Management* – Currently, the BLM fire management policy within the LHTA consists of full suppression of wildfires. The BLM delegates fire suppression activities to

Response 12: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated. As outlined in the EIS, MTARNG intends to become a signatory to the MOU regarding cooperative management of the ECMA. This should provide an avenue for the Forest Service to continue consistent management of wildlife habitats.

Response 13: The MTARNG appreciates the opportunity that the Helena National Forest is offering to determine the feasibility and components of a new agreement regarding fire protection services. An officer from Fort Harrison will contact Mr. Riordan to discuss options for the new agreement. Formalizing a new agreement would not take place until U.S. Congress has made its decision regarding the proposed withdrawal.



Caring for the Land and Serving People

FOR MORE INFORMATION, VISIT BLM.gov



Comment 13
(Continued)

the MTARNG while the Grant is present on the LHTA. Otherwise, fire suppression is the responsibility of the BLM who has an agreement with the Helena National Forest to suppress fires on the LHTA.

Under Alternatives 1 and 3, the MTARNG would assume all fire suppression activities and propose to enter into an agreement with the Helena National Forest similar to that of the current BLM agreement. Under Alternative 2, the MTARNG would be responsible for fire management in the closure area of the LHTA while the BLM would assume responsibility in the non-closure area. The BLM would continue to delegate fire management responsibilities to the MTARNG while the Grant is present in the non-closure area. However, fire suppression would continue to be the responsibility of the BLM. Under Alternative 2, the BLM would continue its current agreement with the Helena National Forest to suppress fires; however, only in the non-closure area within the LHTA.

The Helena National Forest currently assumes fire protection responsibilities for the BLM within the LHTA in exchange for fire protection services elsewhere. This is conditioned on the fact that fire protection services are applied to lands administered by the BLM, a recognized fire protection agency. As lands are withdrawn from BLM administration, a new agreement would have to be certified for fire protection services regardless of the responsible agency since the LHTA would no longer be administered by the BLM. The Helena National Forest is willing to meet with the MTARNG between the draft and final EIS to determine the feasibility and components of a new agreement. We are also interested in exploring opportunities for fire use within the LHTA.

3. **Grazing**—We support Alternative 2 with regards to the laws and regulations governing grazing. Under Alternative 2, grazing throughout the LHTA would be managed by the BLM in accordance with Federal Land Policy Management Act (FLPMA) and the Butte Field Office. Given the presence of other BLM administered allotments in the ECMA, this alternative would facilitate consistency in grazing management.

We support either Alternative 2 or 3 relative to grazing allotments and permits. Under these Alternatives, all existing allotments and permits within the LHTA would remain the same. These allotments would not exacerbate elk livestock conflicts that have been prevalent in the Limestone in recent years due to continued drought and other factors. The Helena National Forest, the BLM Butte Field Office, FWP, local landowners, outlaws, people, and other community members have worked together in the Limestone Working Group to collaboratively resolve conflicts associated with competition for forage between elk and livestock. Alternative 1 could potentially lead to reductions in grazing opportunities within the LHTA. These reductions could result in grazing pressure elsewhere which could in turn lead to increases in elk livestock conflicts within the ECMA.

Comment 14

4. **Mitigation**—Under Alternatives 2 and 3, the status of most of the closure area for recreational use would change from "temporary" to permanent. While we are not taking a position on the closure changes, we do support the mitigation measures identified should

Comment 15

Response 14: Thank you for your comment.

Response 15: Please see Section 4.11 Mitigation Measures, Mitigation for Loss of Recreational Land. The proposed mitigation for loss of recreational land would be a one-time lump sum to the BLM. The Butte Field Office Resource Management Plan (summarized in Appendix L) identifies the acquisition criteria. MTARNG would have no further involvement.

Comment 15
Continued

either Alternative 2 or 3 be chosen. To mitigate the loss of land, the MTARNG would assist the BLM with the acquisition of similar land based on criteria summarized in Appendix E. Given the natural, cultural, and social values of the EUMA and the high cost associated with this mitigation (i.e., approximately \$8.4 million), we recommend that MTARNG develop a strategy that defines a process and timeline for such acquisition. We also recommend that acquired lands be in the vicinity of the EUMA, if possible.

We are pleased that the MTARNG has identified, in all action alternatives, a willingness to be a signatory on the Elkhorns Cooperative Management Area Memorandum of Understanding. We look forward to working with the MTARNG in the management of the Elkhorns as an ecosystem.

Comment 16

If you have any questions, please contact Denise Pengerich at 406-495-3736. Thank you for your time and consideration of our comments.

Sincerely,

Kevin T. B Jordan
KEVIN T. BORDAN
Forest Supervisor

Response 16: Thank you for your comment regarding MTARNG becoming a signatory on the Elkhorns Cooperative Management Area Memorandum of Understanding.

October 15, 2007

Mr. Sundt West
Montana Army National Guard
Fort Harrison
P.O. Box 4786
Helena, Montana 59604-4789

Ms. West

Re: Limestone Hills Withdrawal Comment

The Elkhorn Working Group (EWG) met on Oct. 11, 2007 and reviewed the Limestone Hills Training Area Land Withdrawal Draft Legislation EIS.

We offer the following comments:

We support Alternative Three (3) with two (2) suggestions.

Comment 17

We suggest that the MTARNG consider the feasibility of transferring funding to the BLM for *grazing lands management technical personnel resources*. This would provide consistent management per their RMP standards.


Comment 18

We suggest that the MTARNG consider the management of *wildlife habitat* to be a joint effort with MTARNG, MFWP, BLM and the USDA Forest Service.

Thank you for the opportunity to comment.

Comment 19

Sincerely,


Brad Smith, Chairman EWG

Response 17: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.

Response 18: BLM has no further grazing management role under Alternative 3. Transfer of funding to the BLM for grazing lands management and technical personnel resources under Alternative 3 would therefore be funding for lands outside of the proposed withdrawal area. If BLM were to take over grazing management under Alternative 3, management of grazing would be identical to Alternative 2. Under Alternative 2 BLM continues to manage grazing. The MTARNG and BLM have defined that the primary responsible management agency would provide the funding and oversight for any relevant management activities (See footnotes on **Tables 2-4** through **2-7**).

Response 19: The MTARNG agrees that from a larger perspective healthy ecosystem management of wildlife habitat should be a joint effort among agencies and the public. However, for this document, the agencies defined the primary responsible management agency. The primary responsible agency is the agency that would (1) be responsible for directing the management of the resource or activity, (2) provide the contact personnel for questions, concerns, or requests relevant to the resource or activity, (3) provide the funding and oversight for any relevant management activities, (4) determine the overriding legal, regulatory and guidance framework for management activities (under the BLM, it would be the *Federal Land Policy and Management Act*, and under the MTARNG, it would be the *Sikes Act*).

10/6/2007

To: Sundt West, Land Withdrawal Project Manager
Mary Figuerelle, BLM Project Manager

Sundt West@mt.nm.gov
Mary.Figuerelle@blm.gov

Re: comments re Limestone Hills Withdrawal

Comment 20

What bothers me most about transferring public land from BLM to MANG is DOD. That is, while the Montana National Guard (MANG) has been most reassuring as to no management changes for public access to the non-closure area, how do we know that the federal Department of Defense (DOD) will adhere to this policy for the next 20 years?

I believe this cannot be guaranteed, therefore I favor Alternative 2 over the BLM-MANG recommended Alternative 3.

As I understand Alternative 2, it would transfer only the "closure area" where MANG has left unexploded ordnance, and where it has promised to gradually clean up such ordnance for mining and recreation, while continuing to train there.

Comment 21

It seems to me that the million-dollar payment to the county should be part of Alternative 2 as well as Alternative 3. The million dollars, of course, is to be funded by general taxpayers, another case of hitting us with our own money. Still, I approve of the payment and the county commissioners' intention to put it in a trust fund, and it does compensate for the loss of PILT funds.

Comment 22

BLM originally leased both areas to MANG some fifty years ago. Though MANG has used it for some fifty years, this does not alter the fact that it is, FIRST, public land and should remain so, with public access. It seems to me that BLM wanted out when it realized the danger to the public of unexploded ordnance, and allowed MANG to close that area. It seems to me that MANG is legally and morally obligated to clean up its mess no matter what. That it has waited 50 years to do so is a shame.

Comment 23

MANG proposes to extend stakeholder grazing leases from the BLM standard of 10 years to 20 years. This amounts to giving the rights away, with fewer safeguards from over-grazing. Does it smell like a bribe, to gain more support?

Comment 24

That MANG threatens NOT to clean up UXOS, unless Alt. 3 is adopted, amounts to a threat. I contend it is their DUTY to clean up OUR public land, no matter what.

Comment 25

In conclusion, I think the public is best served if BLM remains involved in the non-closure area management, close to other BLM lands. That's Alternative 2.

Comment 26

Sincerely,
Jaret van Swearingen
P.O. Box 885
Townsend, MT 59644

Jaret van Swearingen
e-mail: jhuglietta@j2.aliso.com

Please add me to the mailing list

Comment 27

Response 20: The Department of the Defense (DoD) has oversight over the military branches, including the Department of the Army. The Department of the Army's regulations and guidance are those followed by State National Guards. The Department of the Army could direct mission changes that may result in land management changes. However, if a Department of Army directive brought about any significant changes to the land management in the Limestone Hills Training Area it would require review under the National Environmental Policy Act, at a minimum.

An example of this nationally occurred when the Department of the Army requested that the Pennsylvania National Guard change its military mission to include a Striker Brigade. The Pennsylvania National Guard was required to prepare an environmental impact statement (EIS). The EIS included public involvement and review. A local example is this ongoing EIS process for the proposed withdrawal of the Limestone Hills Training Area. The withdrawal has required public involvement, NEPA documentation, supporting reports, and will require a Congressional decision. The withdrawal cannot be completed unilaterally by the DoD.

Response 21: Alternative 2 has the same proposed withdrawal boundary as Alternative 1 and 3. Alternative 2 looks at split management between BLM and the MTARNG but the proposed withdrawal area is still the same. Under Alternative 1, 2, and 3 the emergency closure area as designated by BLM in 1993 would become a permanent closure area, just slightly smaller in area. About 388 acres of previously closed land would be available for public use (Table 2-1).

Response 22: Under Alternative 3 Broadwater County would not receive any payments in lieu of taxes (PILT) for the Limestone Hills Training Area. Broadwater County has indicated that a payment of \$1,000,000 would adequately mitigate the loss of PILT revenue from implementation of Alternative 3 throughout the tenure of the withdrawal (Appendix G). Loss of County revenue from implementation of Alternative 2 (termination of about 40 percent of annual PILT) would be mitigated with a lump sum payment from the MTARNG to Broadwater County of \$400,000. Under Alternative 2 Broadwater County would continue to receive PILT from BLM for 60 percent of the Limestone Hills Training Area. Mitigation for loss of County revenue is discussed on in Section 4.11, Mitigation Measures, under Mitigation for Loss of County Revenue.

Response 23: BLM implemented the emergency closure in 1993. The MTARNG did not have authority to close the area.

There is an obligation to clean up unexploded ordnance (UXO) on lands used by the military. On lands that are currently used for military training, UXO clearance is usually the responsibility of the local military entity managing the training area. On a closed training facility UXO clearance is usually the responsibility of the U.S. Army Corps of Engineers (COE). For closed ranges, even though the military retains the obligation to clear the UXO, the COE's priorities and funding are based on a national perspective and are therefore different than under currently used open ranges managed under local military authority. Consequently, UXO clearance may not receive the same funding priority and therefore take longer to complete. See Section 2.5.8, UXO Clearance Activities.

Historically, active Army ranges such as the range at the Limestone Hills have not been systematically cleared of UXO due to the recurring nature of the contamination and due to the cost and danger associated with such clearance. However, Department of Military Affairs's Right of Way contains a stipulation that the MTARNG will find and remove UXO following live-fire operations involving dud-producing ordnance.

The Right of Way was signed in 1983 and surface clearance operations have occurred annually on the active impact range since 1983. However, sub-surface clearance of the entire area potentially impacted by UXO from 1958 to the present has not occurred and funding for such a clearance would not be possible under current funding protocols unless the Limestone Hills Training range were officially closed.

Response 24: The Stakeholder Working Group suggested that 20-year grazing leases would mitigate the uncertainty of MTARNG grazing management.

Response 25: Please refer to the response to Comment 23.

Response 26: Thank you for your comment.

Response 27: The agencies will retain you on the mailing list.

LHTA LEIS Knudson.txt

--- Original Message
 From: Ruthann Knudson [mailto:paleoknute@rivers.net]
 Sent: Tuesday, October 09, 2007 4:09 PM
 To: Sandi E
 CC: 'W. Heath, Stan'
 Subject: Limestone Hills Training Area LEIS

[Comment 28](#)

Sandi, I have reviewed the LHTA LEIS as well as the related Davis, Auberg, and Fisher 1980 cultural resource inventory report and the 2006 BIA sample re-survey report. Thank you for sending me those reports. It is clear that the extremely important Indian Creek Paleohistoric site (24BA0626) is outside of your study area but not far outside either. I recognize that you have no apparent legal responsibility for 24BA0626. It is within a half-mile of the training area and I think it should be addressed in Sec. 3.8.4, National Historic Landmark or National Register Properties within or near the LHTA. This is such an important site that I think you need to make it clear that you are aware of the site's sensitivity and that there is always the possibility that comparable sites could be found in comparable geological situations within the Training Area.

Thank you for providing me the opportunity to review this LEIS and its possible impact on the Indian Creek site.

Ruthann

Ruthann Knudson, Ph.D., RPA
 3021 4th Ave. S., Great Falls, MT 59405-3329
 PH: 406.216.2676 - FAX 406.216.2680 paleoknute@rivers.net

Classification: UNCLASSIFIED
 Caveats: NONE

Page 1

Response 28: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.

Although we agree that site 24BW626 is an important site, we would rather not include it in Section 3.8.4, as it is not formally listed in the National Register or as a National Historic Landmark. We also agree that the potential for deeply buried prehistoric sites may exist in some parts of the LHTA, and will add a statement to that effect in the appropriate cultural resource overview section of the LEIS.

LHFA LEIS STORKE TEXT

-----Original Message-----

From: johnstoner@netscape.com [mailto:johnstoner@netscape.com]

Sent: Thursday, October 11, 2007 12:04 PM

To: West, Sandra

Subject: Public Comment on LHFA

The following comments are on the proposed withdrawal of the Limestone Hills Training Area.

As an original member of the stakeholder working group, I support preferred Alternate No. 3, however I do have some misgivings.

Having to deal with the Army Corps of Engineers...should this withdrawal go through...is a question I don't think could have undesirable effects in the future for as we live nearby the range and like to recreate on those lands still open to the public.

Comment 29

Unfortunately, the Army Corps of Engineers has failed to put in an appearance at any of the numerous public meetings where questions regarding their involvement could be addressed. It seems to be handing over the reins to the Army Corps of Engineers is not an ideal thing to do. In other words the public hasn't a clue to what the Army Corps of Engineers have in mind for the future of the Limestone Hills.

I have felt from the very beginning that this "takeover" was a done thing...needing only the mandatory "house" public meetings, comment periods, etc. to bring it to a conclusion in favor of the Army Corps of Engineers. By the same token, I have spent a lot of time working with the stakeholder group to address concerns I had about certain historical sites within, and bordering, the area.

Yes, in view of the above, I do support Alternative Number Three.

Comment 30

John L. Storke
63 River Road
Townsend, VT 05644

Email address: johnstoner@netscape.com

Netscape: Just the Net You Need.
Classification: UNCLASSIFIED
Comments: NONE

Response 29: The role of the U.S. Army Corps of Engineers (COE) is outlined in Section 1.3.2, Agency Roles and Responsibilities. The COE attended some Stakeholder Working Group meetings and public meetings early in the draft LEIS preparation process. However, COE is not viewed by the MTARNG as having an active role in any land management activity at the Limestone Hills Training Area. COE only prepares documents for internal review and advises commanders on real estate issues. Only by National Guard Bureau directive would COE move forward to acquire land or interests in land. The National Guard Bureau would only direct COE to do so if requested by the MTARNG.

Response 30: Thank you for your comment.

October 14, 2007

Sundi West
Land Withdrawal Project Manager
Montana Guard - Fort Harrison
P.O. Box 4789
Helena, MT 59601-4789

Ms West,

I own property immediately adjacent to the proposed LHTA in T6N R2E Section 17 and have a Montana small miner's permit for another area immediately south of the LHTA in T5N R1E 4.

I have accessed my property from a common use right of way off of River Road in Section 17, T6N R2E for the last 17 years. This roadway is not shown on any maps in the EIS and is not discussed. I assume it would provide access to the "water purification" site shown on figure 2-2 but not described anywhere in the EIS that I am able to find. I would like to know MTRANG's intentions for this roadway and if I will be allowed to continue to access my property using this existing route.

Comment 31

Maps of the LHTA do not show my residence (T6N R2E 17), even though it is not continuously occupied we spend 30 to 60 days per year at our property.

Comment 32

I'm please that you have made an attempt to accommodate existing and future mining activities in the preferred alternative. Please keep the continued ability to obtain mineral resources from the LHTA a central part of MTRANG's management goals.

Comment 33

The range requirement calculations in Appendix C are confusing, unclear and not adequate for the average public reader to understand and do not disclose how the 19,274 acre figure was arrived at. It can only be concluded that the number is back calculated based on the map area MTRANG decided it wanted to use. This level of documentation does not meet the requirements of NEPA.

Comment 34

MTRANG's and BLM's past weed control activities in the LHTA area are poorly characterized. In general they have been too little and too late. The extensive

Comment 35

Response 31: River Road is shown on Figures 1-2 and 2-2. As stated in the LEIS, River Road is a County road and would continue to be so (Section 2.1.5 Roads). River Road should therefore be available for access to your property. The water purification training exercise involves siphoning water from the Missouri River, purifying it to drinkable conditions, and putting it back into the Missouri River. The exercise is meant for soldier's to practice water purification techniques that they would use in the field. The water would not be consumed for training purposes. Water purification training has only occurred once in the last 10 years. Response 32: The maps in the draft LEIS do not show private residences outside of the proposed withdrawal boundary.

Response 33: Thank you for your comment.

Response 34: The number of acres is not back calculated, but is derived from a number of different variables. Range requirement calculations are made using an Army training circular (TC 25-1, Appendix A, Tables A-1 and A-2). Appendix C in the draft LEIS attempted to explain what is a relatively complex calculation. The details of the calculation are part of the administrative record and are available upon request.

Response 35: Thank you for your comment. Weed control at the Limestone Hills Training Area is discussed in sections 2.1.4 (under Weed Control), 2.2.4 (under Vegetation Management), 2.3.4 (under Vegetation Management), 2.5.3 (under Vegetation Management), 3.1.3.5 (Weed and Pest Control), and 3.6.4 (Noxious Weeds).

weed infestations in the LHTA are clear testimony that this has not been a priority. Knowing that all regulations have been followed and that future weed control will be adequately addressed by MTRANG does not provide any sense of comfort. A stronger commitment to aggressive weed control is required whichever alternative is selected.

Comment 35
Continued

There is no discussion of MTRANG's technical capabilities, staff or experience in managing natural and cultural resources proposed to fail under MTRANG's responsibility in the preferred alternative. What vegetation and agricultural specialists would be utilized to make grazing, landuse and weed control decisions? The failure to discuss MTRANG's experience and capabilities to take over BLM's previous responsibilities is a deficiency in the LEIS. The public has no way of assessing MTRANG's assertion that "Impacts to management policies and responsibilities for air resources, geologic resources, water, weed control, wildlife, wildlife habitat, cultural resources would be the same as those described in Alternative 1 and would not result in an appreciable change in management practices." Without a commitment to trained and competent staff and resources for managing these resources it would be reasonable to conclude that such management practices could not in fact be continued without a severe decrease in quality. The EIS's "conclusion" that management practices such as those implemented by BLM would continue under MTRANG's control is not supported by any analysis or documentation in EIS. Since this conclusion is central to the public's understanding of what future management of the area's natural resources will be like this is a flaw in the NEPA document that needs to be addressed.

Comment 36

The statement in section 4.1 under "Water Management" that the LHTA boundary excludes all perennial streams and the Table 4-9 (p. 4-92) indicates that riparian zones are outside of the withdrawal area is not consistent with the facts. The inclusion of the area east of River Road in section 17, T 6N R 2E that apparently provides access to a "water purification" site includes riparian and potentially wetland vegetation and the Missouri River (a perennial stream). **Does MTRANG activities at this site have impacted the riparian vegetation and it must be assumed without any description of proposed activities at this site that future activities would continue to impact riparian and potentially surface water resources at this site.**

Comment 37

Comment 38

A "water purification" site is noted on several maps in section 17, T 6N R 2E. The analysis in chapter 4 makes no mention of this site. No water rights are listed in Table 3-16 indicating that MTRANG has any right to use water from the Missouri River and page 4-37 states "no new water supply wells or additional withdrawals from surface waters are proposed under Alternative 3." However section 2.6.1 (page 2-52) indicates a use of 140,000 gallons of water per year. What is MTRANG's intention? There is no discussion of activities at the "water purification" site or how this water will be removed, treated, used or discharged. What chemicals will be used in the treatment process? How will these chemicals

Comment 39

Response 36: The draft EIS was prepared by a small number of environmental impact specialists. As required by NEPA Regulations Section 1502.17, the EIS lists the names, together with the qualifications (expertise, experience, professional disciplines), of the persons who were primarily responsible for preparing the EIS or significant background papers, including basic components of the statement (Sections. 1502.6 and 1502.8). Where possible the persons who are responsible for a particular analysis, including analyses in background papers, shall be identified.

If a federal agency has an obligation for land management, then the agency must meet those obligations. This may mean hiring new qualified staff, additional training for current staff, or contracting the services to qualified specialists.

The job descriptions and personnel qualifications of either MTRANG or BLM Butte Field Office are available upon request to those agencies, but are too extensive to include in the draft LEIS.

Response 37: The Missouri River is not included in the LHTA withdrawal boundary. The withdrawal boundary is bounded by the Missouri River for less than 25 feet. This is in a heavily disturbed area where people have accessed the river. Thank you for identifying an error in Table 4-9. The table will be revised to reflect the impacts discussion in Section 4.6.

Response 38: Please refer to the response to comment 31 regarding MTARNG water purification training. This area has been and would remain open to public access. As there is no activity change associated with the proposed withdrawal, the impacts are not discussed.

Response 39: Please refer to the response to comment 31 regarding MTARNG water purification training. Impacts to water rights are discussed in the LEIS in Section 4.5, Water Resources. The selection criteria in section 2.6.1 (Selection Criteria) identify the water resource needed to adequately train MTARNG soldiers. That water resource is currently available at the Limestone Hills Training Area for the MTARNG and no additional resource is needed.

Comment 39
Continued

be transported and disposed of, are there risks associated with their use? What are the impacts of this water use withdrawal? This omission in the EIS is a significant flaw and violates a key component of NEPA, which is to fully disclose proposed activities and impacts to the public.

Section 4.10 does not include a listing of hazardous materials that could be expected to be transported to or used on the LHFA. The implication that the only hazardous materials involved at the LHFA are a 500-gallon petroleum tank and pesticides stored off site is clearly misleading and inaccurate. There needs to be a detailed discussion of fuel and chemical usage, transport, storage and disposal. This should include a discussion of ordinance as well. Without a full disclosure of hazardous material transport and usage there is inadequate public disclosure of risks related to proposed MTRANG activities. The failure of the EIS to fully disclose these issues is a violation of NEPA requirements.

Comment 40

There is also no discussion or analysis of the impacts of the hazardous materials associated with MTRANG activities on area soils and groundwater. It is well known that the metals contained in projectiles and the chemicals in propellants are hazardous. If this were other than a DoD activity they would be evaluated in detail. To ignore the required disclosure and analysis contravenes the requirements of NEPA. It is likely that MTRANG activities have resulted in the significant release of hazardous materials to the environment and there should be an analysis of the potential applicability of CERCLA (particularly the Natural Resource Damage component) in the discussion of past and future impacts. Significant land areas are likely to have suffered injury due to the MTRANG activities and there is no evaluation of potential damages to natural resources such as soil and wildlife from the lead and other chemicals released at the site.

The cumulative effects section implies that multiple use lands will be removed from recreational and other uses for the indefinite future, but there is no attempt to quantify this impact.

Comment 41

The discussion of existing and future soil resource impacts, see for example page 4-72, lists grazing, roads and mineral development but ignores past, present and future MTRANG activities. Historic MTRANG activities have caused significant compaction and surface disturbance and it must be assumed that future activities will continue to impact soil resources. This must be evaluated and quantified to satisfy the requirements of NEPA. There should be a description of the acres of MTRANG activity disturbance past and future. The conclusion that the preferred alternative would have no effect on soil and other resources is disingenuous and inconsistent with the proposed military training activities.

Comment 42

MTRANG commitment to compensate Broadwater County with a one time payment is appreciated, but appears by the analysis presented to be too small to adequately compensate the County.

Comment 43

Response 40: Please see Section 3.10.5 for a discussion of the current hazardous materials management. As required by the hazard management plan, a bound copy of material safety data sheets are available for each hazardous chemical stored at the LHFA and are located at the right-to-know center in the range support facility which is located in the cantonment area. Regarding hazardous materials in projectiles and propellants, please see Section 3.10.6, Ordnance and Explosive Activities. The military munitions rule excludes munitions used for their intended purposes from the definition of a solid waste and, therefore, excludes munitions from regulation as a hazardous waste. This exclusion applies to training, research, development, recovery, collection, and on-range destruction of unexploded ordnance. The military munitions rule considers range management to be a necessary part of the safe use of munitions for their intended purpose. The exclusion for range clearance applies to the separation of lead and bullets from soil and the redeposition of soil on the range. If spent lead at a shooting range is abandoned (or is determined to be abandoned), it then becomes solid waste. If solid waste accumulates on the ground surface and, therefore, causes lead leaching, it may be considered a hazardous waste. At that point, the lead contamination could be subject to *Resource, Conservation and Recovery Act* Subtitle C requirements (Interstate Technology and Regulatory Council [ITRC] 2003).

Response 41: Please see the discussion of land use cumulative impacts in Section 4.12, Cumulative Impacts (under Land Use). The document states that the recent and planned acquisition of at least 5,000 acres of recreational land near the LHTA would likely reduce demand for recreational use in the LHTA. The reduced demand would not be because the military has removed the land from recreational and other uses, but because BLM has acquired additional lands for public access.

Response 42: Surface of disturbance in the LHTA due to military construction and training is discussed in several sections. Please see Figure 2-2 for a map showing current military land use, Table 2-3 for a summary description of the current ranges at LHTA, and Tables 3-5 and 3-6 for a list of current area surface disturbance from the location of facilities. Past surface disturbances may be different than what is currently documented in the draft LEIS. Some of these areas have been reclaimed and some roads have been closed. No new ground disturbing activities are planned for the foreseeable future.

Section 3.1.2, Military Use of the LHTA, discusses measures specific to the LHTA for minimizing damage to natural resources from military training exercises under Natural Resource Protection Training Restrictions. These measures include soil protection measures such as no off-road motorized travel and that all ground disturbing activities require NEPA review. Some soil compaction and surface soil disturbance would occur from normal military use of the area including setting up temporary tents or other compounds, group marches or movements that simulate military attacks, and vehicle parking alongside roads and trails. These short-term impacts to soils should

recover naturally within a few weeks or months after the site specific use has ended. Rotating use areas for compounds or short-term parking will help minimize these short-term soil impacts.

Response 43: Broadwater County has indicated that a payment of \$1,000,000 would adequately mitigate the loss of PILT revenue from implementation of Alternative 3 throughout the tenure of the withdrawal (Appendix G). Loss of County revenue from implementation of Alternative 2 (termination of about 40 percent of annual PILT) would be mitigated with a lump sum payment from the MTARNG to Broadwater County of \$400,000. Under Alternative 2 Broadwater County would continue to receive PILT from BLM for 60 percent of the Limestone Hills Training Area. Mitigation for loss of County Revenue is discussed in Section 4.11, Mitigation Measures, under Mitigation for Loss of County Revenue.

Comment 44

The extent of the omissions related to the transport, use and past release of hazardous substances in this Draft EIS appear to be too extensive to be "smoothed over" in a Final EIS with no further public involvement. The agencies should strongly consider the need to supplement the Draft EIS and conduct the appropriate public involvement and required disclosure.

Comment 45

Sincerely,

Doug Parker
623 River Road
Townsend, MT

Mail to
667 E Beckwith
Missoula, MT 59601

Response 44: Please see response to comment 40. Your concerns will be included in the final LEIS that will be reviewed by the U.S. Congress. An additional opportunity for public involvement will occur during the legislative process by contacting your Congressional representatives.

Response 45: The agencies have considered your request. Thank you for your comment. We encourage you to stay involved in the process as it moves into legislation.

LHFA Comment williams.txt

----- Original Message -----
 From: judyntomhughes.net [mailto:judyntomhughes.net]
 Sent: Tuesday, October 16, 2007 8:46 AM
 To: West, Sundi E
 Subject: Fw: Public Comment for Limestone Hills Training Area

Name and Information:
 Thomas J Williams, 48 Highway 437, Toston, MT 59643 406-266-5760 Comment 46
 judyntomhughes.net

Comments:
 I prefer Alt. 2 because grazing would be managed solely by the BLM. conflicts
 may arise with two entities managing grass on one side of the road or the
 other. money should be appropriated for the BLM to do this job. Under BLM
 management, a qualified range tech would be in charge. if another plan is
 chosen, a qualified range tech would have to be hired to manage the grazing
 and habitat.

The permittees have expended on this allotment for close to 80 years and have
 gotten along with the BLMs very well for 50 years.

Continue The Good work.
 Classification: UNCLASSIFIED
 Caveats: NONE

Response 46: Thank you for your comment. The MTARNG and BLM have defined that the primary responsible management agency would provide the funding and oversight for any relevant management activities (See footnotes on Tables 2-4 through 2-7).

October 15, 2007
Round Grove Ranch
3416 Highway 284
Townsend, MT 59644

Ms. Sundi West
Montana Army National Guard
Fort Harrison
P.O. Box 4789
Helena, MT 59604-4789

Re: Comments on the LEIS for the Limestone Hills Training Area

Dear Ms. West:

We are writing this letter to comment on the proposed LEIS for the Limestone Hills Training Area.

Comment 41

We will fully accept the Army in a more active role in our neighborhood and hope that the Army will be better prepared militarily with an enhanced training area. With sincerity we accept that this process will put our grazing practices, which we have enjoyed for three generations, in a secondary role of land use in military use. Our management practices of our private holdings have preserved this land in its natural state, which, in turn, makes the whole area desirable for military training.

We prefer Alternative 1 to be implemented. If this alternative is selected, we will only be willing to sell an easement to the Army of our private landholdings, retention of ownership of these lands is important to us. In our private landholdings in Section 22, T8N, R11E, there are several shell fragments that are always worrisome. Whenever we come upon the shell fragments we wonder if UXO is in the area.

Comment 42

As we understand Alternative 1, the Montana Army National Guard will oversee the grazing allotments. It seems reasonable that this same agency should be responsible for renewing the grazing permits, not the FWS. If it is our desire to continue the grazing practices that we traditionally have had in Limestone Hills Sheep Allotment.

Comment 43

We appreciate the cooperation and good will that has been demonstrated by the Montana Army National Guard in the meetings that we have attended.

Sincerely,

Kelly Argyle
Kelly Argyle
Round Grove Ranch

Response 47: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated.

Response 48: MTARNG encourages you to contact Range Control (406-324-3638) whenever you find worrisome shell fragments. They will coordinate with you to address your concerns.

Response 49: Your interpretation is correct. Under Alternative 3 MTARNG would be responsible for the renewal of the grazing permits, not the BLM. Thank you for your comment.

Bethany A. Bile
P.O. Box 54
Townsend, MT 59644

Sandi West
Land Withdrawal Project Manager
Montana Guard - Fort Harrison
P.O. Box 4789
Helena, MT 59604-4789

Mary Fugaree
BLM Project Manager
U.S. Department of Interior
Bureau of Land Management
106 North Parkmont
Butte, MT 59701

October 15, 2007

Re: Limestone Hills Training Area Legislative Environmental Impact Statement

Dear Sandi and Mary:

Thank you for the opportunity to comment on the LEIS for the Limestone Hills Training Area. The LEIS has been carefully prepared and organized. The following are my comments.

Comment 50

1. BLM and MTARNG need to consider as mitigation for Alt 3 some public land replacement acres. These lands, while closed periodically, have been available for public use and enjoyment and active multiple resources management. While some of these activities will continue under Alt 3, the community and area residents will have little opportunity to shape and make changes in the future. The lost benefits of these open spaces is difficult to measure currently, but we are a fast developing county. Broadwater County population growth has been in double digits for the past 7 years and is one of the fastest growing counties in the State. There are over 4,000 residential lots in the county that have received preliminary plat approval and, if developed, would quadruple the population of the county in a short amount of time. In Lewis and Clark County City of

Response 50: Please see Section 4.11, Mitigation Measures, under Mitigation for Loss of Recreational Land. The proposed mitigation for loss of recreational land would be a one-time lump sum (\$8.4 million) to the BLM. In accordance with the Butte Field Office Resource Management Plan (summarized in Appendix L) BLM would be responsible for the acquisition criteria. MTARNG would have no further involvement.

Comment 53
Continued

Helena, open space is being bought with tax dollars now at high land prices (some as much as \$50,000/acre).

Broadwater can be very expensive. Now is the time to look into the replacement open space acres for Broadwater County before the land surrounding it is all developed and more expensive. There are many organizations who could partner and provide support in such an acquisition, including Broadwater County's own Trust Board, and the Montana Fish and Wildlife Trust that was set up following the sale of the Canyon Ferry cabin lots. They are actively searching out these types of projects in the Upper Missouri valley area.

2. The PILT value of these lands has been estimated at approximately \$26,000/year. The LEIS did not disclose a formula or any kind of a calculation that would explain how Broadwater County should be compensated for the 1. Direct loss of PILT revenue, and 2. Indirect loss of future activities development that will not be able to happen. Broadwater County is even identified to continue to maintain the road through the area. The LEIS and decision needs to consider a thoroughly thought out compensation package for the residents of Broadwater County as mitigation for the loss of a substantial amount of its public lands estate.

Comment 51

I appreciate your efforts in preparing a balanced and informative LEIS. I may be contacted at (406) 266-3518 and at 949-3667.

Sincerely,



Bethany A. Ible
600 North Oak
P.O. Box 54
Townsend, MT 59644

Cc: Broadwater County Commission

Response 51: A PILT value of \$26,000 per year over the course of 25 years would result in a payment to the County of \$650,000. Broadwater County has indicated that a payment of \$1,000,000 would adequately mitigate the loss of PILT revenue from implementation of Alternative 3 throughout the tenure of the withdrawal (Appendix G). Loss of County revenue from implementation of Alternative 2 (termination of about 40 percent of annual PILT) would be mitigated with a lump sum payment from the MTARNG to Broadwater County of \$400,000. Under Alternative 2 Broadwater County would continue to receive PILT from BLM for 60 percent of the Limestone Hills Training Area. Mitigation for loss of County Revenue is discussed in Section 4.11, Mitigation Measures, under Mitigation for Loss of County Revenue.

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JOHN K. KUTKIAN
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VIA E-MAIL

VIA OVERNIGHT DELIVERY

Ms. Sondi West
MIARNG
Fort Harrison
P.O. Box 4789
Helena, MT 59604-4789

Ms. Mary L. Figarella
Bureau of Land Management
106 North Parkmont
Butte, MT 59701

Comment 52

Re: Comments of Graymont Western U.S Inc. - Draft Legislative Environmental Impact Statement for the Limestone Hills Training Area Land Withdrawal, Montana Army National Guard

Dear Ms. West & Ms. Fivayville:

Graymont Western US Inc. ("Graymont") has asked that I submit the enclosed comments on its behalf in response to the Federal Register Notice of July 17, 2007 requesting public comment on the Draft Legislative Environmental Impact Statement ("Draft LEIS") for the Limestone Hells Training Area land Withdrawal, Montana Army National Guard ("MTARNG"). Graymont requests that these comments be made part of the public record with respect to the Draft LEIS and that they be fully evaluated and responded to in the preparation of the final Legislative Environmental Impact Statement.

Graymont has discussed the issue described in the comments regarding the waiver of the Major Land Acquisition Moratorium with both the MTARNG and the BLM. We appreciate the accommodation given in extending the comment period in order to allow us to meet with representatives of the MTARNG to discuss this issue. We also appreciate the representatives of the MTARNG taking the time to meet with Graymont representatives on Tuesday, October 16, 1990.

DOI: 10.1002/anie.201500019

16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850,

Ms. Sundi West
Ms. Mary L. Figuerelle
October 19, 2007
Page 2

Commentary by
Cook County

2007 to discuss that matter in greater detail. Based on those discussions and the input from the MTARNG we feel it is still important for Graymont to make its concerns part of the public record through disclosure of the issue in the attached comments.

Graymont continues to believe that a workable solution can be reached with regard to the use of the public lands in the Limestone Hills. Such a solution would allow Graymont to continue its mining operations and also allow the MTNAR to carry out its military training mission. However, the Draft LEIS leads us to believe that there are those within the military that are not willing to work with us to achieve such a solution. Alternative 1, the "proposed action" as considered in the Draft LEIS only puts forward a position that achieves the military objectives at the expense of Graymont's existence. Alternatives 2 and 3 would also result in a taking of a significant number of Graymont's claims.

Graymont feels the possibility of Graymont's elimination or the taking of a significant number of the Graymont claims must be removed from the alternatives being considered before a workable resolution can be obtained. Solely based on the calculation of value contained in the Draft EIS, we estimate that the elimination of Graymont's mining operations would have the potential to result in a loss in imputed value of mineral resources in an amount between \$765 Million and \$1,020 Billion. Such a result is not acceptable to Graymont without full consideration of the impacts on all interested parties in accordance with prescribed process and without full compensation in accordance with applicable law.

As pointed out in its comments, Graymont does not believe that these impacts are fully evaluated in the Draft LEIS nor does Graymont believe that the appropriate decision makers within the Department of Defense have been fully apprised of that impact. It also appears to Graymont the Department of Defense procedures that are required to be followed before the Draft LEIS should have even been made public, have not been followed.

Graymont continues to express its willingness to work with the MTARNG and the Congressional Delegation to arrive at a workable solution in the Limestone Hills that will allow Graymont to continue its mining operations and the MTARNG to achieve its training mission. We believe that we have proven that such a solution is achievable by the fact that we have worked together with MTARNG for the past 25 years to use the Limestone Hills Training Area for both the military objectives of the MTARNG and the mineral extraction objectives of Graymont. We

Response 52: Thank you for taking time to review the Limestone Hills Training Area Land Withdrawal Draft Legislative EIS. Your comment is appreciated. Responses to comments attached to your cover letter follow.



Ms. Steddi West
Ms. Mary L. Figszelle
October 19, 2007
Page 3

Continued

would be happy to continue to work with both the delegation and the MTARNG to achieve that solution.

Very truly yours,

John S. Kirichuk

cc: Senator Max Baucus
Senator Jon Tester
Congressman Dennis Rehberg
BLM State Director, Gise Tortland
Bill Dodge
Mike Brown
Elton Chorney

2006-00-345310-1 000000-0000

**COMMENTS
OF
GRAYMONT WESTERN US INC.
REGARDING
DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT
LIMESTONE HILLS TRAINING AREA WITHDRAWAL
MONTANA ARMY NATIONAL GUARD**

These comments are submitted on behalf of Graymont Western US Inc. ("Graymont") in response to the Federal Register Notice of July 17, 2007 requesting public comment on the Draft Legislative Environmental Impact Statement ("Draft LEIS") for the Limestone Hills Training Area Land Withdrawal, Montana Army National Guard.

Graymont maintains its Indian Creek Processing Plant in the immediate vicinity of the area proposed for withdrawal. In addition, Graymont has located and maintains unpatented mining claims on certain of the federal lands proposed for withdrawal by the Montana Army National Guard ("MTARNG"). Those unpatented mining claims constitute the sole source of supply of the limestone resource utilized in Graymont's Indian Creek plant. Therefore, if implemented, the proposed withdrawal will have a significant impact on Graymont and its operations.

Graymont has actively participated in the process leading up to the publication of the Draft LEIS. Based upon our review of the Draft LEIS and the appendices attached to the document, we have discovered what Graymont believes is a fundamental procedural flaw in the preparation of the withdrawal proposal and the Draft LEIS. This fundamental flaw is critical to the withdrawal process and must be rectified before any further action is taken with respect to the withdrawal. The comments which follow are organized to provide an overview of the most significant comments, general comments regarding issues that appear throughout the Draft LEIS, and specific comments based on a page-by-page analysis.

Overview

The Department of Defense documents we have reviewed indicate that the MTARNG has not obtained the appropriate authority from the Under Secretary of Defense (Acquisition, Technology and Logistics) to proceed with the proposed withdrawal.

The Draft LEIS is legally deficient and inadequate to provide the decision makers with the information needed to make an informed decision with regard to the proposed withdrawal.

A calculation based on the materials contained in the Draft LEIS discloses that the selection of Alternative 1, which is the **Proposed Action**, requiring the acquisition of all mineral rights of Graymont within the area of LEITA, would result in a loss in resource value to Graymont of between **\$765 Million and \$1,020 Billion**. Despite the enormous cost that would be associated

Response 53: The MTARNG received a waiver to the Major Land Acquisition Moratorium on May 4, 2002, signed by Mr. E.C. "Pete" Aldridge, from the Office of the Under Secretary of Defense (USD), Acquisition, Technology and Logistics (AT&L).

Response 54: Both Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

Response 55: The agencies are unclear how Graymont calculated the figures in this comment. Without further information, the agencies are unable to address this comment further. Impacts from loss of mineable mineral reserves or potential resources due to possible termination of some or all mining activities or acquisition of federal mineral rights are described in Sections 4.3 and 4.9.

Please see response to Comment 93, which provides a more detailed discussion of mineral deposit and claim valuation.

See also 243 FR 10100-01; 02-01-09-0100

with implementation of that Alternative, the source of funding of such an acquisition is described in the Draft LEIS simply as "unknown."

The significance of that impact and the related impacts of a "taking" of Graymont's property are never considered in the Draft LEIS to be significant and are dealt with only in the terms of "could be." The Draft LEIS does not satisfy the requirements of specificity contained in the Eagle Act. In short, the Draft LEIS fails to consider the impacts of the alternatives and makes no explanation as to the source of funding for the takings proposed in Alternatives 1, 2 and 3.

The discussion of Alternatives 2 and 3 erroneously refers to impacts that would occur because of the withdrawal based on the assumption the MTARNG has the right to carry on its operations rather than the situation as it legally exists today.

No environmental document can be considered adequate that does not disclose the actual details of the action being proposed and each of the feasible alternatives to that action and fully evaluates the consequences of each alternative.

Fundamental Procedural Flaw

The Draft LEIS explains at page 1-8, Section 1.2.4 that the second step in the process to obtain a land withdrawal as proposed by the MTARNG is to "obtain a waiver to the Major Land Acquisition Memorandum." However, all of the alternatives proposed in the Draft LEIS (with the exception of the no action alternative) fail to conform to the specific condition that formed the basis for obtaining the required waiver.

Appendix B to the Draft LEIS entitled "Major Land Acquisition Waiver Request, Waiver Approval and Draft Withdrawal Proposal" contains the documentation related to the waiver. As explained in those documents, a Memorandum was issued by the Deputy Secretary of Defense on September 13, 1990 and another Memorandum was issued by the Principal Deputy Assistant Secretary of Defense on October 24, 1990. As described in the documents contained in Appendix B, those memoranda impose what is referred to as the "DOD Major Land Acquisition Memorandum." In order to proceed with a withdrawal of the Limestone Hills Training Area as requested by the BLM, the MTARNG was required to obtain a waiver of the Major Land Acquisition Memorandum. The documents contained in Exhibit B purport to contain that waiver. The documents actually contained in Appendix B, however, are incomplete and do not contain all of the documentation referenced within the various memoranda and "cover sheets." Those documents do disclose a fundamental procedural defect that must be addressed and dealt with before any further action is taken in connection with the proposed withdrawal.

In order to understand the significance of this comment and its impact on the current Draft LEIS, reference is made to the document titled "Memorandum Thru Deputy Chief of Staff for Operations and Plans, Director of the Army Staff for Deputy Assistant Secretary of the Army (Contributions and Housing)." At paragraph "2. Purpose, b," the document explains that a "policy exception" must be obtained to the Major Land Acquisition Memorandum, before the Department of the Army can proceed with the withdrawal process and specifically the preparation of the

Response 56: Both Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

Response 57: The impacts of the alternatives are presented in Chapter 4 of the draft LEIS. The agencies disagree that takings are proposed in Alternatives 1, 2, and 3.

Mining claims are only identified in terms of their possible conflict with military training, if actively mined. Graymont's mining claims do not necessarily need to be extinguished as other options may exist, such as delaying actively mining until after the life of the proposed withdrawal. Graymont's need to actively mine every claim within the proposed LHTA withdrawal boundary and within the lifetime of the proposed withdrawal has never been clarified in writing by Graymont

Funding for possible takings would be a U.S. Congressional decision

Response 58: It is the agencies' opinion that the right-of-way (ROW) is a valid authorization as it relates to the MTARNG's operations until it expires in 2014.

Response 59: Both Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

Response 60: The MTARNG received a waiver to the Major Land Acquisition Moratorium on May 4, 2002, signed by Mr. E.C. "Pete" Aldridge, from the Office of the Under Secretary of Defense (USD), Acquisition, Technology and Logistics (AT&L). The waiver was mistakenly left out of the document and will replace the duplicate request for waiver in Appendix B. Thank you for identifying this omission.

The waiver is not made invalid because impacts analysis identified additional issues and alternatives to be addressed in the draft LEIS. The agencies disagree with Graymont's interpretation of the purpose of the Memorandum of Agreement (MOA). The MOA is fully disclosed in Appendix F. The purpose of the MOA is not to define military use, but to identify "compatible joint use" at the LHTA. Also, as the MOA states, "the joint use practices set forth in the MOA are independent of possible authorizing legislation for the proposed withdrawal." Therefore, the MOA has no bearing on the waiver.

Comment 61
Continued

LEIS. As a part of this Memorandum under the heading "3. Discussion," at "c," it is stated as follows:

"There are no planned changes in the military use and range management of the land. All current public use of the area will remain as it is currently. Grazing and recreational activities by private entities will remain as they are now."

Thus, in the documentation utilized to obtain the required waiver of the Major Land Acquisition Moratorium, it was clearly represented to the decision making authorities that: (i) there were to be no planned changes in the military use; (ii) there were to be no changes in range management of the land; and (iii) all current public use of the area was to remain as it is currently.

None of the alternatives considered in the Draft LEIS, other than the no action alternative, conform to this specific condition that formed the basis of the waiver that was obtained in order to pursue the withdrawal. This is of material significance because of the potential cost and socioeconomic impact resulting from the impacts to public use that are described in the various "action" alternatives described in the Draft LEIS.

As discussed in greater detail in later comments, each of the first 3 alternatives in the Draft LEIS do, in fact, constitute "planned changes in the military use" as currently authorized under the Memorandum of Agreement executed by Graymont, the BLM and the MTARNG in February, 2005 (hereinafter sometimes "MOA"). This MOA reflects the current relationship among Graymont, the BLM and MTARNG as well as the relationship that has existed since the "Montana Governor's Consent Council" proceedings that the parties engaged in during the mid-1990's. Thus, it reflects the "military use" that existed at the time the waiver was obtained.

In addition, each of the first three alternatives contemplate changes in range management of the land. Also, and most importantly to Graymont, each of the first three alternatives impacts Graymont's utilization, as a member of the public, of its mining claims in the area of the proposed withdrawal. Specifically, as both the BLM and the MTARNG are aware, the Draft LEIS purports to move the surface danger zones ("SDZs") from those depicted in the currently executed Memorandum of Agreement to those unilaterally determined to be necessary by the MTARNG.

Comment 61

The impact on Graymont of that change is shown in Table S-3 regarding Alternative 1: "All mining claims determined to impact Army mission could be acquired by the Army" (at page S-21); at Table S-4 regarding Alternative 2 (at page S-25); and at Table S-5 regarding Alternative 3 - the "preferred alternative". "Ninety-four mine claims determined to impact Army training objectives could be acquired by the Army" (at page S-28).

It is of greatest significance that each of Alternatives 1, 2 and 3 is described in the Draft LEIS as being directly contrary to the paragraph quoted above from the Memorandum requesting the waiver. As more fully described below, should the MTARNG elect to pursue a new waiver on the basis of what is actually being proposed, then that waiver request must acknowledge the proposed changes in the "military use and range management of the land", and include a realistic

Comment 62

Response 61: As the MOA states, "the joint use practices set forth in the MOA are independent of possible authorizing legislation for the proposed withdrawal." Therefore, the MOA has no bearing on the draft LEIS, other than defining the current agreement.

Response 62: The waiver is not made invalid because impacts analysis identified additional issues and alternatives to be addressed in the draft LEIS. The MTARNG received a waiver to the Major Land Acquisition Moratorium on May 4, 2002, signed by Mr. E.C. "Pete" Aldridge, from the Office of the Under Secretary of Defense (USD), Acquisition, Technology and Logistics (AT&L). The referred Memorandum dated November 17, 2002 does not nullify the waiver. MTARNG received confirmation of this opinion from the Department of the Army General Counsel in October 2007.

Comment 62
Continued

description of the potential impact to Graymont. The description of the potential impact, must include the possibility that there would be a complete "taking" of Graymont's operations, as contemplated by Alternative 1, the "proposed action", and a significant partial taking as described in Alternatives 2 and 3. The obtaining of the waiver on the basis of assumptions that are totally contrary to any of the alternatives considered in the Draft LEIS is unacceptable and clearly not within the parameters of the documents that were submitted to obtain a waiver of the Moratorium.

Under the circumstances described above, the Draft LEIS must be redrafted to reflect the representations contained in the Request for Waiver executed by Brigadier General William G. Wichter or a new waiver must be processed under current Secretary of Defense directives. The request must accurately describe each of the alternatives mentioned in the Draft LEIS including Alternative 1 which would have the potential to totally terminate any and all activities of Graymont within the area proposed to be withdrawn and Alternatives 2 and 3 that would partially terminate those activities.

As explained in the Memorandum, "the EIS cannot be initiated unless a waiver is approved." Thus, a waiver obtained on the false representation that "all current public use of the area will remain as it is currently" requires that the entire process be reinitiated and, if possible, a waiver based upon the actual "proposed action" and "preferred alternative" as contained in the Draft LEIS be authorized under current Department of Defense directives. Such a waiver, if granted, must be based upon the true impacts to Graymont and other interested members of the public after those impacts have been fully disclosed to the deciding officer.

Stated differently, how could a member of Congress feel adequately informed of the impact of a proposed withdrawal action if the fundamental principles upon which the action was initiated and originally authorized by the Department of Defense are no longer present in the action being proposed?

The foregoing discussion of the procedural flaw Graymont has identified is based upon the documentation contained within the Draft LEIS. In addition, Graymont has conducted its own research into the requirements imposed upon National Guard units with regard to the approvals required by the Department of Defense in order to accomplish a major land acquisition. Attached to these comments you will find a copy of a memorandum from the Secretary of Defense dated November 17, 2002 titled "Memorandum for Secretaries of the Military Departments Under Secretary of Defense (Acquisition, Technology and Logistics)." Also attached is a copy of Department of Defense Instruction Number 4165.71 dated January 6, 2005 that confirms and implements the instruction contained in the Secretary of Defense Memorandum.

The Memorandum dated November 17, 2002 makes reference to Memoranda from the Deputy Secretary of Defense dated September 13, 1990 and December 1, 1994 and states "[t]his Memorandum supersedes these memoranda and any other memoranda inconsistent with the guidance reflected herein." In the Memorandum from the Secretary of Defense, he expresses his

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Comment 63
Continued

concern with the acquisition of real property throughout the United States and particularly in the area of Washington DC. The Memorandum then contains the following instructions:

Effective immediately, no major land acquisition proposals within the Washington, DC, area may be made public through a request for proposal, notice of intent to perform environmental analysis, request for regulator or budget line item, press release, or other official notice without my approval or that of the Deputy Secretary. All previously approved or announced major land acquisitions within the Washington, DC, area for which binding documents have not been executed, as of the date of this memorandum, may not proceed until approved by me or the Deputy Secretary, after review by the Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)). In addition, no major land acquisition proposals outside the Washington, DC, area may be made public, in the manner discussed above, without the approval of the USD(AT&L).

National Guard major land acquisitions which are to be funded in whole or in part by Federal funds are subject to the moratorium.

A major land acquisition is defined as the purchase, withdrawal from public domain, lease or permit from individuals or government entities, or any other type of use agreement involving more than 1,000 acres, or land whose estimated purchase price or annual lease price exceeds \$1 million. (Emphasis supplied.)

Our research does not reveal that the Secretary of Defense Memorandum dated November 17, 2002 has been replaced or repealed. To the contrary, the Memorandum has been confirmed in a Department of Defense Directive and is other Department of Defense Instructions. In Department of Defense Directive Number 4165.6, dated October 13, 2004, regarding "Real Property" (Copy attached) which renames and reissues several prior documents under the heading "POLICY" it is stated: "It is DoD policy that: ...4.4. Utilizing the multiple-use principle, DoD real property shall be made available for mineral exploration and extraction to the maximum extent possible consistent with military operations, national defense activities, environmental conservation and protection, and Army civil works activities."

In a subsequently issued Instruction dated January 6, 2005, which is attached, the policy of the Memorandum is reiterated as follows:

"6.1 Land Acquisition Approval. Proposals for the acquisition of 1,000 or more acres of land, or land with an estimated purchase price or annual lease price that exceeds \$1 million, must be approved by the USD(AT&L) prior to any public announcement, request for proposal,

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notice of intent to perform environmental analysis, request for legislation or budget line item, press release, or other official notice, in accordance with Secretary of Defense Memorandum (reference (3))."

"6.1.2. National Guard land acquisitions federally funded in whole or in part are subject to the requirements of this paragraph 6.1."

The Draft LEIS contains no indication that the required approval of the Under Secretary of Defense has been obtained in connection with the proposed withdrawal. Therefore, based upon our review of the Memorandum from the Secretary of Defense, none of the actions of the MTARNG to make public the Draft LEIS nor of the Army Corp of Engineers to suspend the operation of the public land laws within the area of the proposed withdrawal have been properly authorized. It appears to Graymont that those actions have been undertaken in violation of the November 17, 2002 Memorandum.

As long as the November 17, 2002 Memorandum is still in effect, no further action in connection with the proposed withdrawal can be undertaken until the required approval of the Under Secretary of Defense (Acquisition, Technology and Logistics) has been obtained based upon an accurate description of the impact of each of the proposed alternatives outlined in the Draft LEIS.

General Comments

The National Environmental Policy Act (NEPA) requires that all agencies of the federal government are to include in every recommendation or report on proposals for legislation, a detailed statement analyzing the environmental impact of the proposed action. 42 USC Section 4332. Such a report must include, but not be limited to, a detailed statement concerning any adverse environmental effects which cannot be avoided should the proposal be implemented, alternatives to the proposed action, and any irreversible and irrevocable commitments or resources which would be involved in the proposed action should it be implemented. Based upon its review of the document, Graymont believes the Draft LEIS is deficient for the following reasons:

- The Draft LEIS fails to properly state the current relationship between Graymont's use of its mining claims and the MTARNG's use of the right-of-way.

In order for an environmental impact statement to satisfy the requirements of NEPA, it must contain an adequate description of the environment affected by the proposed action and each of the alternatives considered in the document. The Draft LEIS does not adequately describe the interrelationship between the current uses of the lands by Graymont and the use of the lands both

Comment 83
Continued

Comment 83

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Response 63: Please see response to Comment 58.

Section 1.3, Land Withdrawal Process, defines a withdrawal as: "(1) withholding an area of federal land from settlement, sale, location or entry, under some or all of the general land laws, for the purpose of limiting activity under those laws in order to maintain other public values in the area or reserving an area for a particular public purpose or program; and/or (2) transferring jurisdiction over an area of federal land, other than property governed by the *Federal Property and Administrative Services Act*, as amended (40 U.S. Code 472) from one department, bureau or agency to another department, bureau or agency" (FLPMA, sec.103[j]). In the case of the proposed LHTA withdrawal, both definitions of withdrawal apply, and the transfer of jurisdiction over federal land is from the BLM to the Army.

The waiver was approved and included direction to proceed with an EIS and to process the withdrawal. According to the above definition of withdrawal, the authorizing parties were knowingly considering an action that could lead to settlement, sale, location or entry for the purpose of limiting activity. Therefore, a request for withdrawal could be a request for an exclusive possessory right.

Graymont's concern about the non-exclusive non-possessory nature of the MTARNG ROW, in contrast with an exclusive possessory right if a withdrawal were authorized by Congress, is not considered by the agencies as a change in military activity. Changes from non-exclusive non-possessory rights to exclusive possessory right are addressed in the draft LEIS as changes for non military users (inholders, mining claims, grazing, and other uses) and not considered a change in

military activity (on-the-ground military training and support).

The agencies agree that the existence of the ROW does not preclude the location of additional mining claims during the period of the ROW. The ROW is described in the draft LEIS in Section 1.2.3 and is included in its entirety in Appendix A. The agencies believe that the draft LEIS accurately describes the ROW.

Continued

as they presently exist and as proposed by the MTEARNG. Without providing a full legal analysis, the following salient points are relevant.

The current use of the Limestone Hills Training Area ("LHTA") is pursuant to a Right-of-Way granted by the BLM. As explained on several occasions in the Draft LEIS, the Federal Land Policy and Management Act under which the Right-of-Way was granted does not authorize the issuance of rights-of-way for military purposes of the nature currently carried out by the MTEARNG. Notwithstanding the fact that the Right-of-Way is not authorized by law, even on its face the document specifically states that the Right-of-Way granted to the MTEARNG is "a nonexclusive, nonpossessory right-of-way." Thus, the uses of the public lands by the MTEARNG, even if they were authorized for the present military purposes, must comply with the terms of the BLM issued Right-of-Way. As mentioned previously, the waiver under which the MTEARNG is pursuing the legislative withdrawal is on the basis that there would be "no planned changes in the military use and range management of the land." Therefore, if the proposed use following withdrawal was to follow this description, then the use following withdrawal would be both non-exclusive and non-possessory.

In contrast to the non-exclusive, non-possessory nature of the MTEARNG Right-of-Way, the rights of Graymont are those of a mining claimant. The United States Supreme Court has described those rights as follows:

The rule is established by innumerable decisions of this Court, and of state and lower federal courts, that, when the location of a mining claim is perfected under the law, it has the effect of a grant by the United States of the right of present and exclusive possession. The claim is property in the fullest sense of that term; and may be sold, transferred, mortgaged, and inherited without infringing any right or title of the United States. *Wibaux v. U.S. ex rel. Krumholz*, 280 US 396 (1930) (Footnotes omitted). Subsequently modified as to other unrelated issues.)

It is important to know that the Supreme Court has also held that the interest described above may be asserted against the United States as well as third parties, *Bea v. Humboldt Placer Mining Co.*, 371 US 334, 336 (1963). It may not be taken from the claimant by the United States without due compensation, *United States v. North American Transportation & Trading Co.*, 253 US 350 (1920), and it may not be declared invalid except in accordance with due process. *Cameron v. United States*, 232 US 450 (1920). See, *Mineral Law*, Terry Malley, 6th Edition, 1996 at page 676.

The mining claims of Graymont located prior to March 26, 1984 are both first in time and first in right and constitute valid existing rights at the time the Right-of-Way was granted to the MTEARNG by the BLM. In granting the Right-of-Way, the United States retained ownership of all mineral materials together with the right to exercise any rights not specifically granted by the Right-of-Way. 43 CFR § 2805.15. Thus, the existence of the Right-of-Way does not preclude the location of additional mining claims during the period of the Right-of-Way. Mining claims

TABLE A-1 (continued)

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Comment 63
Continued

located during the period of the Right-of-Way are subject only to the uses the BLM was legally authorized to grant. Thus, if the Right-of-Way was not legally authorized, Graymont's rights are superior to any of the rights of the MTARNG. In this regard, it should be noted that among the terms and conditions applicable to the MTARNG under its grant are the obligations to:

"(c) Control and remove any release or discharge of hazardous material on or near the right-of-way arising in connection with your use and occupancy of the right-of-way, whether or not the release or discharge is authorized under the grant. You must also remediate and restore lands and resources affected by the release or discharge to BLM's satisfaction and to the satisfaction of any other Federal, state, tribal or local agency having jurisdiction over the land, resource, or hazardous material;

(d) Comply with all liability and indemnification provisions and stipulations in the grant;" 43 CFR §2805.1.

The MTARNG specifically agreed to be bound by these terms and conditions in the Right-of-Way at section b, paragraph 1.

As indicated, this failure to properly state the current relationship results in many inaccurate statements regarding the obligations of the MTARNG to both Graymont and the BLM. It also results in the failure to acknowledge the true impact that the withdrawal process will have on Graymont given its current ownership interest in both the mining claims and the related plant and facilities. These failures constitute significant inadequacies in the Draft LEIS and must be corrected before the matter may proceed through the withdrawal process.

- The Draft LEIS fails to fully evaluate Graymont's proposed mine expansion in the context of the proposed alternatives.

Graymont submitted a complete copy of its proposed mine expansion documentation to the MTARNG concurrently with its submission to both the BLM and the Montana Department of Environmental Quality early in 2006. The Draft LEIS fails to fully acknowledge the content of the materials Graymont submitted. It is in fact to acknowledge the legal priorities described above as they apply to both the processing of the mine plan modification and the relationship between Graymont's rights as the owner of unpatented mining claims and the MTARNG's rights as the holder of an unauthorized Right-of-Way. As described below, the current utilization of the Limestone Hills Area is subject to the terms of the Memorandum of Agreement executed in February 2005.

The contractor preparing the environmental impact statement in connection with Graymont's mine expansion, as it evaluates both the existing environment and the potential withdrawal environment, must conduct its evaluation on the basis of the terms of that MOA inasmuch as neither the BLM nor Graymont has agreed to a change in those terms. Until the withdrawal has been authorized by Congress it is only speculation as to what the withdrawal might look like. This is particularly significant given the differences between what was authorized by the waiver obtained to initiate the LEIS process and the content of the Draft LEIS. Thus, while the

Comment 64

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Response 64: It is the agencies' opinion that for the purposes of the draft LEIS Section 2.8.3, Graymont Mine Expansion and Exploration Activities, and 3.3, Geology, Minerals and Paleontology, under Current Mining Operations, adequately describe the Graymont Mine expansion. However, the text on page 2-71 of the draft LEIS will be modified from "initiated discussions" to "submitted an Operating Plan for approval" with the Montana DEQ. The proposed expansion is in its own EIS process and until a record of decision (ROD) is signed, further discussion in the LEIS would be speculative as to the outcome of the proposed expansion. The draft LEIS describes all of Graymont's mining claims within the proposed withdrawal boundary in terms of possible conflict with military usage (See Figures 2-5a and 2-5b). This description covers claims in both the current life-of-mine permit and those in Graymont's proposed expansion.

Section 1.2.3, Administrative History of the LHTA, the LEIS states: "In 1991, BLM determined that valid authorizations for military use of public lands in effect at that time could continue until their expiration dates, at which time they should be authorized by another means." The 1984-issued ROW grant to the MTARNG is a valid authorization.

Please see response to Comment 61 regarding the MOA.

Please see response to Comment 60 regarding the waiver.

The inclusion of the MOA map in Appendix F serves a different purpose than Figures 2-5a and 2-5b in the draft LEIS. The MOA map looks at current conditions for compatible joint use at the LHTA. Currently, active

mining occurs only under the life-of-mine permit in UXO cleared areas. However, the draft LEIS figures take a look at each individual Graymont mining claim within the proposed withdrawal boundary as if they were to be actively mined and would possibly be a safety concern or impede military use of the LHTA infrastructure (See bullets in Section 2.3.3, Nonmilitary Land Use, under Mining and Mineral Rights). The surface danger zones (SDZ) defined in Army Regulation 385-63 and shown on the MOA map are different than those shown in the draft LEIS figures because the LEIS includes the addition of "bat wings," additional safety precaution areas for possible ricochet of ordnance. Although this is a change, the difference only led the agencies to identify an additional need for "coordinated use" and not additional "conflict with proposed military use." The "bat wings" only lead to additional coordinated use between Graymont and the MTARNG. No mining rights need to be extinguished based on the change in SDZs.

Response 65: As the MOA states, “the joint use practices set forth in the MOA are independent of possible authorizing legislation for the proposed withdrawal.” Section 7 of the MOA, Governing Law, states that “nothing in the MOA shall alter the rights or the responsibilities of the MTARNG, Graymont, and the BLM. This MOA shall not be construed as limiting or affecting in any way the vested or delegated authority of a party.” In addition, Section 11 states that “a party may terminate this MOA upon 90 days written notice.” The agencies believe that the draft LEIS accurately describes the MOA but the draft LEIS is independent of the elements within the MOA.

The agencies do not believe that the draft LEIS absolves the MTARNG of liability and responsibility regarding UXO and would need a specific reference to the draft LEIS for addressing this comment further.

The ROW is described in the draft LEIS in Section 1.2.3 and is included in its entirety in Appendix A. The agencies believe that the draft LEIS accurately describes the ROW. The MOA is fully disclosed in Appendix F. The agencies believe that the ROW and MOA are properly disclosed and documented and that they are properly reflected in the consequences of the alternatives, including Alternative 4.

Comment 64
Continued

MTARNG has proposed that under the withdrawal the SDZs will impact Graymont's mining claims, the existing MOA requires the MTARNG to maintain its field targets in a manner that will cause the surface danger zones "to eliminate overlap of the SDZs onto mining claims proposed for mining related activities." (MOA at page 2.)

In the preparation of the Draft LEIS, the MTARNG must fully evaluate Graymont's proposed mining expansion in the context of the current MOA as well as the anticipated impact the withdrawal would have should the SDZs as described in the Draft LEIS become effective. The Draft LEIS must also give full consideration to the possibility of future development in the area where Graymont has located claims for dolomite. On several occasions in the Draft LEIS both the significance of this potential development and its potential impacts are minimized. Nowhere in the document are the currently authorized SDZs evaluated particularly as they relate to the proposed mine expansion.

- The terms of the current Memorandum of Agreement are not reflected in the Draft LEIS.

While the current Memorandum of Agreement is attached to the Draft LEIS as Appendix F, the Draft LEIS does not consider the terms of that MOA to constitute the present circumstance. The Right-of-Way is issued in favor of "the Montana Army National Guard Department of Military Affairs, State of Montana." The Memorandum of Agreement was entered into between the MTARNG, Graymont and the BLM. Throughout the document, the Draft LEIS attempts to absolve the state of Montana and particularly the MTARNG of liability and responsibility for the actions that have led to the current circumstance in the Limestone Hills with regard to unexploded ordnance ("UXO") contamination of the public lands.

Comment 65

As mentioned above, the existing BLM regulations impose certain obligations upon those who hold a right-of-way grant on the public lands. In this circumstance, that is the MTARNG. In addition, the special stipulations attached to the Right of Way grant provide that: "The National Guard will bear full liability to the extent of the law for any injury caused to a non-Guard member of the public." The terms of the existing Memorandum of Agreement obligate the MTARNG "within 90 days of a written request by Graymont" to establish a plan to clear roads and civil paths needed for exploration of unexploded ordnance. Similarly, the MOA provides that the MTARNG "will conduct and adjust UXO clearance activities to meet Graymont mining priorities." Throughout the Draft LEIS, the obligations imposed upon the MTARNG under the Right-of-Way, the MOA and the applicable regulations are not properly disclosed or documented, nor are they properly reflected in the consequences of the alternatives particularly Alternative 4.

- The Draft LEIS fails to adequately consider an alternative that would adjust the withdrawal boundary line to accommodate Graymont's operations.

Comment 66

Graymont participated actively in the scoping process for the Draft LEIS. On numerous occasions, Graymont suggested, as an alternative, the adjustment of the withdrawal boundary line to eliminate all or a substantial portion of Graymont's mining operations from the

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Response 66: The draft LEIS discusses alternatives eliminated from further consideration in Section 2.6.2. An alternative adjusting the withdrawal boundary to eliminate the area containing mining claims held by Graymont from the withdrawn area does not meet the following alternative selection criteria:

- Have sufficient area to safely accommodate current and future gunnery training.
- Adhere to BLM and Army policies regarding appropriate management and use of land potentially containing unexploded ordnance.

Although this alternative and its elimination are only briefly discussed in the draft LEIS, the idea was thoroughly discussed in several stakeholder working group meetings attended by Graymont. Both Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

Comment 66
Continued

withdrawal boundary. The figures depicting proposed military land use do not identify any proposed use of a substantial portion of Graymont's existing plant of operations. Similarly, there is no proposed use depicted with regard to a substantial portion of Graymont's proposed mine expansion.

The possibility of an adjustment to the western boundary of the proposed withdrawal area is both logical and practical. The discussion and subsequent diagram of this alternative at pages 2-57 and 2-58 is simply not adequate to satisfy the NEPA requirements. Inasmuch as NEPA requires that an environmental impact statement consider reasonable alternatives to the proposed action and the adjustment to the proposed boundary as suggested by Graymont is both reasonable and practical, the failure to fully evaluate that alternative in the Draft LEIS causes the Draft LEIS to be legally inadequate.

- The Draft LEIS contains no analysis of the economic impacts that would occur should a "takings" occur as contemplated by Alternatives 1, 2, and 3.

At page 2-13 the Draft LEIS states "under Alternative 1, 2, and 3, all non-military land use would be secondary to military use." Similarly, at page 2-20, the document states "in the event of a conflict with military land use, the Army would have the authority to reduce or eliminate civilian use of any property within the LHFA including permitted activities such as grazing and mining."

Comment 67

As described in greater detail above, Graymont currently holds mining claims which give it the right of present and exclusive possession subject only to the permitting authority of BLM and the non-exclusive, non-possessory rights of the MTARNG as to certain of the mining claims under the existing Right-of-Way if it is found to have been legally issued. Graymont obviously acknowledges that for the safety of its employees it will adhere to the conditions of its permit regarding the clearance of UXO. However, as discussed more fully above, as a mining claimant, the United States cannot deprive Graymont of its rights without both due process and just compensation. Under each of Alternatives 1, 2 and 3, the rights of Graymont would be in some fashion "taken" in the event Congress elected to adopt one of those three alternatives.

The significance of that possibility is clearly demonstrated in the description of the three action alternatives. As summarized in the Tables in the Executive Summary each alternative would result in a "takings" of Graymont's claims. With respect to Alternative 1 in Table 8-3, as page 8-21 it is stated "all mining claims determined to impact Army mission could be acquired by the Army." As to Alternative 2, in Table 8-4, as pages 8-23 it is stated "Ninety-four mine claims determined to impact Army training objectives could not be used." This situation is stated differently with respect to Alternative 3 in Table 8-5 as pages 8-28 where it is stated: "Ninety-four mine claims determined to impact Army training objectives could be acquired by the Army."

Under this circumstance, in order for the Draft LEIS to be adequate, it must fully evaluate those environmental effects that would result from such a taking. Those impacts include both the cost

Response 67: The draft LEIS does not remove Graymont's right of due process and the agencies disagree with the certainty of "takings," as Graymont states.

If the MTARNG deemed that any of the active mining operation was in conflict with the MTARNG's ability to carry out its mission and the U.S. Congress agrees, the active mine could be acquired and mining terminated. Acquisition of mineral rights and mining claims could take several forms: purchase, condemnation, donation, or exchange. Further examples of some of the options available include: (1) Elton Chorney, Graymont plant manager at the Indian Creek Plant was quoted in the Helena Independent Record on August 19, 2007 as saying that the current life-of-mine permit would allow for 15 to 20 years of mining. The proposed withdrawal tenure is 25 years, Graymont may choose to hold the claims, but not actively mine during the period of the withdrawal, in which case there would be no conflict. (2) When going through the established validation process for mining claims, some or all of Graymont's claims may be found invalid and those rights could be extinguished without payment. (3) Graymont assumes it will receive a ROD in favor of its mine expansion for all claims within the LHFA proposed withdrawal boundary, but that is predecisional.

Various options for the handling of mining claims in conflict with the military activities will be explored in open processes after the U.S. Congress makes its decision on how to proceed with the proposed withdrawal.

The agencies do not want to circumvent or deny appropriate processes for Graymont's proposed expansion through the withdrawal process. The agencies look

forward to the completion of Graymont's expansion EIS and our opportunity to review and comment.

Any mining claims the COE may wish to acquire or extinguish are recognized as real property that would be subject to a formal process to determine the validity of the mining claims. This process involves conducting a detailed examination of the mining claims and the preparation of a mineral validity determination report, which would form the basis for further action. This further action could either be a contest action that challenges the validity of the claim, or detailed appraisals to determine a purchase value of the claims should the COE decide to purchase the claims.

The cost to purchase mining claims which the COE may wish to acquire or extinguish would not be determined until after a validity report was completed on the claims. Purchasing of the claims is only one of the possible actions that might result from the validity report. In addition, please see response to comment 94, which provides a detailed discussion of mineral deposit and claim valuation.

The role of the U.S. Army Corps of Engineers (COE) is outlined in Section 1.3.2, Agency Roles and Responsibilities. The real estate report prepared by the COE is an internal planning document and was not used to prepare the draft LEIS. No contractor nor outside agency reviewed the report. The report's only purpose is to advise commanders and their staff on real estate valuation issues. The report will not be used to influence Congressional decision on the proposed withdrawal. Both

Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

In response to this comment, the text in section 2.1.3 has been modified to read as follows: "Under Alternatives 1, 2, and 3, all nonmilitary land use would be secondary to military use. Non-military uses on federal land throughout the entire LHTA would continue to include mining and grazing activities that do not conflict with the military mission as described in Section 2.1.1. However, under alternatives 2 and 3, as described below, the MTARNG has clearly identified areas of existing conflicts between mining and the MTARNG mission and has indicated that it will not expand its mission into areas that create greater conflict with mining."

Response 68: Inconsistencies in Socioeconomics Specialist Report have been identified and resolved and corrected or eliminated.

Discrepancies between values reported for Graymont's reclamation bond in the socioeconomic report and the mineral assessment report have been rectified, the correct values is \$3,675,530 (source P. Plantenberg, DEQ personal communication with Allan Kirk, as of June 2006). The correct date for the reference document titled "Geology, Mineral Occurrences and Economic Resource Potential of the Limestone Hills Training Area" by Allan Kirk is October of 2006. The reference section has been revised.

Comment #1
Continued

to acquire the existing rights of Graymont and the socioeconomic impact that would occur in the event of such a taking.

While the report titled "Geology, Mineral Occurrence and Economic Resource Potential of the Limestone Hills Training Area" attached to the Draft LEIS does contain a section titled "Economic Evaluation of the Indian Creek Mine," the Draft LEIS does not contain an analysis of the cost to "take" the Graymont operations as contemplated by Alternative 1 or the partial taking contemplated by Alternatives 2 and 3. Similarly, even though Graymont has been told that the Army Corps of Engineers has prepared a document entitled "Real Estate Planning Report" neither that document nor the analysis of the cost impact of a taking of the Graymont properties as contained in that document is contained within the Draft LEIS.

As required by NEPA, all of the documentation utilized in the preparation of the Draft LEIS must be made public in order for both Congress and the public to properly comment on the adequacy of the document. Since the Draft LEIS does not fully disclose the economic impact to the United States or Graymont of the "takings" contemplated by Alternatives 1, 2 and 3, and since it does not fully evaluate the socioeconomic impacts that such a "taking" would have on the economies of Broadwater County, the state of Montana and the United States, the Draft LEIS must be considered as inadequate.

- The Draft LEIS contains numerous inconsistencies and blanks that must be completed and/or reconciled in order to constitute an adequate NEPA document.

Comment #2

Our review of the Draft LEIS discloses numerous inconsistencies in references and blanks or incomplete documentation that must be reconciled and/or completed in order to provide an adequate document for submission to Congress. We have already pointed out the documents missing from Appendix B. In addition, inasmuch as Graymont's focus relates to mining issues, we will simply point out a few of these inconsistencies in the discussion of the impact on mining.

In the document titled "Socioeconomics Resources Specialist Report for the Limestone Hills Training Area Located Near Townsend, Montana May 2009" (hereinafter "Socioeconomics Report") at the pages 23, 26 and 28, it is stated that Graymont's reclamation bond is in the amount of \$70,000. However, in the document titled "Geology, Mineral Occurrences and Economic Resource Potential of the Limestone Hills Training Area" at page 19 it is stated that Graymont "has a reclamation bond posted with the State of Montana DRIQ for \$3,675,530 (as of June 30/09)".

Also, on several occasions in the Socioeconomics Report, there are "X's" where it would appear that a word intended a number would be inserted. As an example, see pages 25, 26 and 27.

As another example, throughout the references in this document to the mineral issues, the citation is to "Rirk 2003" while the document attached to the Draft LEIS was prepared by Alan Kirk, and is dated October 2009. The "Literature Cited" at the end of the report does not provide any indication as to what constitutes "Rirk 2003." Such inconsistencies and inaccuracies

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Comment #6
Continued

while possibly not material do bring into question the accuracy of the documentation utilized in the analysis.

- The Draft LEIS fails to comply with the specific statutory requirements of the Eagle Act as found at 43 USC § 157.

The requirements of the Eagle Act with respect to the content of any application for a withdrawal to be authorized by an act of Congress are very specific and require certain details that are not contained within the Draft LEIS. Among those requirements are a detailed description of the purposes or purposes for which specific areas are proposed to be withdrawn, whether the proposed use will result in consummation of any or all of the areas requested or be included in the withdrawal, whether that consummation will be permanent or temporary, and whether or not the proposed use will effect continuing full operations of the public land laws including those related to the development of mineral resources. One of the specific areas of concern to Graymont is that there is no indicated purpose for which the area of Graymont's existing active mining operation is being withdrawn. This is of particular interest because in this area the mining claims of Graymont are superior to any rights the MTARNG might claim under the Registered-Way. There is also a large area to the south of the existing operation for which no military use is shown even assuming the SDZs proposed by the MTARNG.

Comment #5

Another concern relates to the issue of contamination and the potential for contamination in those areas where Graymont's mining operations will take place under both the existing permit and the proposed mine plan modification. There is also no indication whether such consummation would be permanent or temporary. Also with respect to the continuing operation of the public land laws, while the description of its preferred alternative contains some specific information on that issue, it is clear under Alternative 1 that there is no specific answer as required by the Eagle Act. Instead, the language used is vague and uncertain using such terms as "could be terminated." Similarly, the language with regard to non-military land use is vague and uncertain as to what constitutes a conflict with the "military mission" which is only generally described. Inasmuch as the application ultimately to be filed must be specific with respect to each of these issues, the failure of the Draft LEIS to evaluate in specific detail the requirements imposed by the Eagle Act causes the Draft LEIS to be inadequate.

Page-by-Page Analysis

The following comments are based upon a page-by-page analysis of the Draft LEIS. Comments referred to under the heading General Comments will not be repeated in the page-by-page analysis. Similarly, comments discussed under the Executive Summary will not be repeated when the same comment would apply to text in the detailed portion of the document. The comments do apply to all portions of the document that contain the same or similar text.

Executive Summary

Under the heading "Scope of the Legislative EIS" at what would be page 8-5 is misstated previously, Graymont believes that the MTARNG has not identified all of the alternatives that

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Response 69: The requirements of the Engle Act are outlined in the draft LEIS on **Table 1-1**. The selection criteria for the alternatives are outlined in Section 2.6.1, Selection Criteria. The purpose of the withdrawal is outlined both in Chapter 1 and under the alternative selection criteria. Please see response to Comment 66 regarding alternatives considered but dismissed. Both Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

Response 70: Please refer to response to Comment 66 for a discussion of the alternatives selection process.

Comment 70
Continued

should have been considered in the NEPA process. As explained in the last paragraph of page S-5, "the boundaries and size of the proposed withdrawal area are common to all alternatives." The failure to consider an alternative that adjusted the exterior boundaries to accommodate Graymont's existing mining operations which do not conflict in any way with any identified military use constitutes a failure to consider all reasonably available alternatives." In this regard, the content of Appendix E "Mineral Claims Status Under Alternatives 2 and 3" contains some inconsistencies with the maps which purport to reflect the areas where military use will conflict with Graymont's mining activities. See, Figures 2-5a and 2-5b.

As mentioned previously, the description of non-military land use and resource management as contained beginning at page S-8 is totally inconsistent with the waiver of the moratorium required to initiate the EIS process. Those inconsistencies must either be changed to correspond to the content of the waiver documentation, or a new waiver must be obtained.

Comment 71

On page S-8, the text indicates that the Army could exercise its authority to acquire mineral rights determined to be in conflict with the military mission. This is also reflected in Tables S-3, S-4 and S-5 with respect to Alternatives 1, 2 and 3. The acquisition of such rights was not authorized by the waiver and the impact with respect to both cost and socioeconomic issues is not analyzed in the Draft LEIS.

At page S-9 the text contemplates that the Army could exercise its authority to condemn private land and/or terminate any mineral claim. Such action was not disclosed in the waiver application nor was it contemplated by the waiver. The impact of such action is not fully analyzed in the Draft LEIS.

At page S-10 under the no action alternative and at other locations throughout the document, it is alleged that in the event the Right-of-Way terminates the obligation to clean up UXO would somehow shift to the Army and the EPA. While it is possible that the state of Montana might seek to obtain funding assistance from other sources, it is clear under the terms of the Right-of-Way that the MTRANG and thus the state of Montana is entirely responsible to the BLM and thus to all authorized users of the public lands to clean up UXO contamination. The concept that somehow the MTRANG can absolve itself of liability simply because the Right-of-Way will expire does not conform to either the terms of the Right-of-Way, the FLPMA under which the Right-of-Way was issued, or the regulations promulgated in connection with the FLPMA. Since the document clearly indicates that it has been the MTRANG that has been using the public lands since the 1950's (S-1), it will be the MTRANG that will retain liability and responsibility for UXO cleanup whether under the Right-of-Way or under previously issued Special Land Use Permits. This comment also applies at page S-16 in Table S-1 under the headings "Expected Rate of UXO Clearance" and "UXO Clearance Priorities".

Comment 72

The text in the first paragraph of page S-19 is inconsistent with the waiver obtained to avoid the moratorium. All of this text must be modified to conform to the content of the moratorium unless a new waiver is obtained based upon an accurate representation of the factual circumstances.

Comment 73

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Response 71: Without further information from Graymont, the agencies are unclear about the references inconsistencies. Please refer to response to Comment 60 regarding the waiver. The agencies believe that the impacts analysis discussion of mineral claims in Section 4.3 is adequate.

Response 72: There is an obligation to clean up unexploded ordnance (UXO) on lands used by the military. On lands that are currently used for military training, UXO clearance is usually the responsibility of the local military entity managing the training area. On a closed training facility UXO clearance is usually the responsibility of the U.S. Army Corps of Engineers (COE). For closed ranges, even though the military retains the obligation to clear the UXO, the COE's priorities and funding are based on a national perspective and are therefore different than under currently used open ranges managed under local military authority. Consequently, UXO clearance may not receive the same funding priority and therefore take longer to complete. See Section 2.5.8, UXO Clearance Activities.

The draft LEIS may appear to Graymont as vague on the issue of UXO cleanup obligation because it is an issue that is not yet resolved. State National Guards have both federal and state missions. When State National Guardsmen train with federal ammunition for their federal mission on lands used under State agreements, there is no clear caselaw outlining who bears the full liability for UXO.

Response 73: Please see response to Comment 60.

Comment 74

Also on page S-19, the bullet points following the second paragraph do not accurately represent the content of the document. As described previously, both Alternatives 2 and 3 constitute significant departures from that of "past practices" inasmuch as the MTARNG has unilaterally moved the SDZs in conflict with the terms of the existing MOA. Under both Alternatives 2 (S-75) and Alternative 3 (S-28) the possibility of a taking of 74 of Graymont's claims is clearly not representative of "past practices" or "existing conditions." This text and the related text throughout the document must be modified to accurately reflect what is being proposed in Alternatives 2 and 3.

Response 74: Please see response to Comment 6.

Comment 75

In the summary of environmental consequences of Alternative 1 beginning on page S-20, there are several inconsistencies that are not appropriately addressed in the Draft LEIS. As indicated, the description of Alternative 1 indicates that the "active mine could be acquired and mining terminated." Nowhere in the document is this possibility adequately evaluated. Specifically, if Graymont's operations were acquired and mining terminated, what would be the required compensation to Graymont? Who would assume responsibility for reclamation of the existing mining operation? What agency would be responsible to oversee that reclamation? Would the Army Corp of Engineers post the required reclamation bond to insure that the reclamation occurs? Would Graymont be compensated for the "taking" of its plant and facilities? Would Broadwater County be compensated for the loss in tax revenue and other socioeconomic impacts related to the acquisition of the mine and the termination of mining activities? None of these issues are evaluated in the Draft LEIS even though they are clearly anticipated results that would occur. The Draft LEIS does not fully evaluate either the activity that would be required or the anticipated impacts that would occur to the environment if Alternative 1 is chosen by Congress.

Response 75: Please see response to Comment 67.

The description of Alternative 2 as summarized in table as S-4 is similarly defective. At Page S-23, the text under the heading "Geology, Minerals and Paleontology" is directly contrary to the waiver obtained in order to circumvent the moratorium. The text under the heading "impact description" is simply wrong. The existing condition is more fully described above with respect to Graymont's ability to utilize its mining claims. The MTARNG has the obligation and would incur the liability in the event UXO contamination is not cleared from the lands covered by Graymont's mining claims. The text in the table must be corrected to accurately reflect "existing conditions" which include the terms of the Right-of-Way and the terms of the existing MOA.

Response 76: Please see responses to comments 60, 67, and 72.

The same comments apply with respect to Table S-5 and Alternative 3 as apply to Table S-4 and Alternative 2. In the event of a partial taking as contemplated by both Alternative 2 and Alternative 3, all of the questions posed with respect to a full taking under Alternative 1 must be answered.

Comment 76

Table S-6 concerning Alternative 4 is similarly inaccurate. The obligation of the MTARNG does not simply go away if the Right-of-Way is allowed to expire in accordance with its terms. The MTARNG as the holder of the Right-of-Way has the present and ongoing obligation to comply with the terms of the Right-of-Way. It cannot absolve itself of that liability simply by attempting to transfer the property to another agency. The failure of the MTARNG to clear the public lands within Graymont's validly located mining claims would constitute a taking of those

Comment 76
Continued

claims and MTARNG would be liable for such a "taking." That possibility is not accurately described in the Draft LEIS nor is that financial impact adequately evaluated.

Chapter 1

As indicated in the General Comments above, the text at page 1-8, under the heading 1.2.4 Land Withdrawal Requirements states that in order to obtain a Land Withdrawal of the area requested for the Limestone Hills Training Area, it is necessary to "obtain a waiver to the Major Land Acquisition Monument." As discussed previously, the content of Appendix B clearly discloses that the existing waiver was obtained on the basis of terms that are not set forth in any of the action alternatives discussed in the Draft LEIS. Based upon our prior participation in the preparation of the Draft LEIS, it is clear that when the withdrawal process progressed to Step 3 identified in these materials, the US Army Corps of Engineers changed the terms of what was proposed in the Major Land Acquisition Monument waiver. Therefore, the entire process must be initiated again and a waiver obtained on the basis of what was imposed by the Army Corps of Engineers at Step 3 or all of the alternatives must be rewritten.

Comment 77

The text at Page 1-12 under the heading 1.2.6 MTARNG Training Range Requirements indicates that for a training area to be adequate to meet the needs of MTARNG a minimum of 19,274 acres is required. Since the proposed withdrawal is only 18,694 acres, the Limestone Hills Training Area does not satisfy these minimum requirements. In order to meet the requirements, it will be necessary to condemn either private buildings or lands of the state of Montana. This would be particularly true if the uses of Graymont's claims was removed from the area proposed for withdrawal. Such an evaluation should be fully identified and discussed in the Draft LEIS even though the text explains that the training area alternatives are now recommended rather than required.

Comment 78

At Figure 1-3 in the box titled "Department of Defense Responsibilities" it is asserted that the Secretary of the Army will issue a license to use the withdrawal area to the MTARNG. The Draft LEIS must both anticipate the possibility that such a license will not be issued and analyze the impacts of that possibility.

Chapter 2

At Figure 2-1 and at many other locations throughout the Draft LEIS, the figures purporting to show the extent of mining activity do not show the existing mining claims or the proposed extension of the mine permit area. Given the nature of Graymont's interest and the fact that the MTARNG has had the Graymont documents regarding mine expansion since early 2006, all of the figures must be updated to accurately reflect Graymont's ownership interests.

Comment 79

At page 2-15 the second paragraph under the heading "Mining and Mineral Rights" does not accurately describe the relationship between the BLM, Graymont and "the Army." Because of the proceedings before the Montana Governor's Consensus Council, Graymont has agreed to the terms of the safety plan contained within its approved Plan of Operations. However, since the lands have not yet been withdrawn the authority to use the public lands is based solely on the

Comment 80

Response 77: Please see response to Comment 60.

Response 78: The MTARNG has a lease agreement with the State of Montana for 1,277 acres. When this acreage is included in available training lands, it is over the 19,274 acres required.

Response 79: Please see response to Comment 64.

Response 80: Please see response to Comment 61.

Comment 80
Continued

MTARNG's Right-of-Way and given the presently executed MOA, the provisions of this paragraph must be changed to reflect the actual circumstance.

At page 2-19 the text describes the UXO clearance activities to date and then states, "UXO clearance elsewhere in the closure area would not occur." This statement implies that the MTARNG would not clear the remaining areas of Graymont's mining claims or for that matter any other areas of the public lands potentially contaminated with UXO. Such a statement is contrary to both the requirements of the Right-of-Way and the MOA.

Comment 81

At page 2-20 under the heading 2.2.2 Military Land Use, the text is directly contrary to the text utilized to obtain the waiver of the Major Land Acquisition Moratorium. One or the other must be changed.

Comment 82

At page 2-24 under the heading Mining and Mineral Rights, the description is not adequate to satisfy the requirements of the Eagle Act specifying the provisions of 43 USC § 157. In this regard, Congress also cautions that while it recognizes that existing regulations would require the validation of mining claims, it is also Graymont's position that it has been prohibited by the unauthorized actions of the MTARNG from being able to satisfy the requirements of the mining law in this regard. That fact should be disclosed in the Draft LEIS in order to fully inform the decision makers as to the existing relationship between the parties.

Comment 83

Beginning at page 2-30 under the heading Mining and Mineral Rights, again the text must be corrected to reflect existing circumstances. The text under the first bullet point on page 2-31 is inconsistent with the obligations imposed by the MOA as outlined in the second bullet point on that page. The third bullet point is simply not accurate based upon the content of the first bullet point. All of these inconsistencies must be resolved and accurately disclosed in the Draft LEIS in order to adequately inform the decision makers.

Comment 84

The comments in the previous paragraph apply to the text at page 2-39 under the same heading.

The text beginning at page 2-45 under the heading Mining and Mineral Rights regarding the impact of the No Action Alternative must be corrected. Again, without repeating many of the comments made previously, it should be noted that the reference to the surface danger zones shown on figures 2-3A and 2-5B are not the surface danger zones contained in the existing Memorandum of Agreement. Similarly, the content of the last bullet point on page 2-46 regarding the actions after the termination of the Right-of-Way grant must be corrected to reflect the actual circumstance. Threats that the MTARNG will not fulfill its legal obligations should be eliminated from the Draft LEIS.

Comment 85

The content under the heading 2.5.8 UXO Clearance Activities beginning at page 2-49 must be corrected to accurately reflect the obligations of the MTARNG under the existing Right-of-Way and under the Memorandum of Agreement. See also, Table 2-7. Particularly in the last paragraphs on that page it is not accurate to assume that the BLM would abrogate the MTARNG of its obligations under the Right-of-Way nor should the MTARNG assume that Graymont would acknowledge any such shift in liability. The Right-of-Way does not authorize the

Response 81: The sentence Graymont refers to on page 2-19 of the draft LEIS is in context with the UXO clearance for an end use of mining. UXO surface sweeps would occur in other areas of the Limestone Hills proposed withdrawal. A surface sweep is a clearance of UXO only on the surface to allow for walking, driving, and other surface uses. UXO clearance described in Section 2.1.8 is to a clearance level such that mining could occur.

Response 82: Please see response to Comment 60.

Response 83: Please see Table 1-1. Please see response to Comment 58. Both Department of the Army and National Guard Bureau review of the draft LEIS found it legally sufficient.

Response 84: Please see response to Comment 61.

Response 85: Please see responses to comments 64 and 72.

MTARNG to avoid its obligations because of other military priorities. Again, while it is acknowledged that the MTARNG might seek other sources of funding to satisfy its obligation, it should not be assumed nor should it be depicted in the Draft LEIS that the state of Montana will be able to so shift its obligations.

Comment 66
Continued

At pages 2-57 and 2-58, the fragment suggested alternative regarding the reduction of the withdrawal boundary is discussed. The inadequacy of this discussion is mentioned previously. The inadequacy of the evaluation is further exacerbated by the direct misstatement of responsibilities in the sentence: "In addition the unexploded ordnance liability would continue to rest with the BLM or with the new owner of the property." The BLM has never had this liability nor would any other potential new owner of the property. It is a MTARNG obligation and the Draft LEIS must so state.

Comment 68

Chapter 3

The text under the heading 3.1.3.3 Mineral Uses at page 3-28 is inaccurate. All of the lands in the area of the proposed withdrawal were available for location under the Mining Laws until the recently imposed suspension. Therefore, the phrase "except where there may be potential explosive ordnance contamination" is inaccurate and should be stricken.

Comment 67

The text in the last paragraph on page 3-55 must be modified to reflect actual circumstances. As described previously, the rights obtained by staking a valid mining claim are greater than simply "the right to explore for and develop mineral resources." Similarly, the rights of the mineral claimant are subject only to "valid existing rights" that existed at the date of location. Since on numerous occasions the Draft LEIS clearly states that the issuance of the MTARNG Right-of-Way was not authorized by law it could not be a valid existing right. It is Graymont's position that the Right-of-Way could not have created rights in the MTARNG superior to those of Graymont or its valid mining claims. The text of the Draft LEIS on pages 3-55 and 3-56 should be modified to accurately reflect the "affected environment."

Comment 66

Chapter 4

Much of the content of Chapter 4 has been summarized in the Executive Summary. However, some additional comments are required given the more detailed content of the various provisions in Chapter 4.

At page 4-3 under the general heading Resource Management and the subheading "Geology and Mineral Use Management" the details of the "taking" of Graymont's property must be more specifically stated. The language in the next to the last paragraph on that page clearly states that all of Graymont's "natural rights" could be "acquired by the Army through the Army Corp of Engineers. The last paragraph on that page indicates that no new operating permits nor expansions would be allowed within the LHTA. Given this language, it is obvious that Alternative 1 contemplates the possibility of a complete taking of Graymont's property interests. The document then refers to Sections 4-3 and 4-9 regarding the consequences of such a takings action.

Comment 68

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Response 86: Please see response to comments 66 and 72. The statement "the unexploded ordnance liability would continue to rest with the BLM or with the new owner of the property" has been removed from the document.

Response 87: The agencies agree that the area of the proposed withdrawal was available for location until the recent BLM segregation. However, Section 3.1.3.3, Mineral Uses, refers to mineral uses. The intent was for "uses" to mean active mining, for which there is an exception to freely mine claims included in Montana DEQ's permit due to "potential explosive ordnance contamination." The word "use" has been changed to "active mining" in the LEIS. Please see response to Comment 81.

Response 88: Please see response to Comment 58.

Text under the heading 3.1.3.3 first paragraph has been revised to read: "The BLM is currently responsible for management of federal mineral estate in the LHTA. All federal land in the LHTA was available for active mining under the mining laws and mineral leasing laws, until segregation on August 12, 2007. Access to land including mining claims in the LHTA, however, may be restricted by the MTARNG based on safety issues related to potential explosive ordnance contamination. Exploration and development of minerals on the mining claims is regulated by rules procedures and various permitting requirements

imposed by both the BLM and the Montana DEQ. Graymont Western U.S. Inc, of Salt Lake City, Utah holds 368 unpatented mineral lode and placer claims, and four (4) patented millsites in the LHTA. Section 3.3 provides a description of land use for mineral extraction in the LHTA.”

Text in Section 3.3, Geology, Minerals and Paleontology, under Mineral Resources, has been revised to read:

“Under rights granted by the General Mining Law (May 1872) a claimant by the staking of a claim acquires the right of possession (by assertion) of a portion of the available federal mineral lands containing a valuable minerals for the exclusive purposes of exploration, extraction and development of a mineral deposit. Pursuit of these rights must still meet permitting requirements and other state and federal laws, such as MEPA or NEPA.”

Graymont assertion in second paragraph of section called Chapter 3 (page 17), comment 88: Please see response to Comment 58. The agencies disagree that “Since on numerous occasions the Draft LEIS clearly states that the issuance of the MTARNG Right-of-Way was not authorized by law it could not be a valid existing right.” The agencies believe that the discussion on page 3-55 and 3-56 of the draft LEIS accurately reflects the affected environment.

Response 89: Please see response to Comment 67.

[Comment 90]

As stated previously, action of that kind was not authorized under the waiver obtained in order to proceed with the preparation of the Draft LEIS. The total inconsistency between what is actually proposed in Alternative 1 and what continues to be stated about Alternative 1 is demonstrated by the last sentence in the first paragraph under this subheading. The sentence states that the existing mine permit conditions for Graymont "would not change as a result of the withdrawal action." Thus, the preparers of the Draft LEIS are saying that if all of Graymont's rights and interests are taken under Alternative 1, it would not change any of the permit conditions for Graymont's operations. How can that be? The Draft LEIS must be modified to accurately describe what is proposed under Alternative 1. All references to the proposed action must be consistent and must conform to the requirements of the Eagle Act. Failure to do so renders the Draft LEIS meaningless.

At page 4-7 under the heading "Property Ownership" the text attempts to distinguish between the rights of a mining claimant under a patented mining claim and those of a mining claimant under an unpatented lode, placer or millsite claim. Graymont has done more than merely "stake" its mining claims. It has demonstrated the presence of a discovery through its active mining operations. The actions of the MIA/RNG in contaminating the public lands have prevented Graymont from conducting certain types of exploration and development activities but the failure to do so does not impact the validity of those claims. Therefore, Graymont as the owner of the unpatented claims has all of the rights described previously in the quotation from the United States Supreme Court. Those rights should be recognized and acknowledged in the Draft LEIS.

[Comment 91]

At page 4-8 under the heading "Geology and Mineral Use Management," it is stated that "the existing Mine Operating Permit" conditions for Graymont's operations are not envisioned to change as a result of the withdrawal action. Again, this is a mis-statement because the proposed withdrawal action would change the present terms and conditions of the MOA and it would purport to restrict Graymont's activities on its mining claims due to the location of the SDZs as unilaterally modified by the MIA/RNG. All references in the description of the effects of Alternatives 2 and 3 must be changed to accurately reflect what is actually being proposed and the true impacts those proposals will have on Graymont's mining operations.

[Comment 92]

Section 4.1 contains the detailed description of much of what has been previously commented on. However, again there are several details that are worthy of additional comment. As stated previously, the Eagle Act imposes upon the entity proposing withdrawal the obligation to present a detailed description as to whether or not the proposed use will effect continued full operation of the public land laws. The text in the last paragraph on page 4-22 clearly illustrates that the Draft LEIS does not contain any such disclosure. In fact, it would appear to indicate that at some future date, after the withdrawal has occurred, the MIA/RNG will have the ability to "dream" any active mining operation as being in conflict with the MIA/RNG's ability to carry out its mission. The Draft LEIS and the subsequent application submitted to the BLM must specifically identify whether or not the active mine will be taken. It is not sufficient to satisfy the requirements of the Eagle Act to say that the "active mine could be acquired and mining terminated." (Emphasis supplied.) As previously mentioned, the text on page 4-4 indicates that the impacts from the loss of mineral interest reserves is purportedly described in Section 4.3 and 4.9. However, the true impacts are not clearly disclosed nor are they adequately evaluated.

[Comment 93]

Bull.L.Hills-243 (EIS) 10/01/05-00001

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Response 90: Please see response to Comment 60.

Response 91:

The agencies recognize a difference between patented mining claims and unpatented lode, placer or millsite claims. Any unpatented mining claims the COE may wish to acquire or extinguish are real property as discussed elsewhere and are subject to a formal process to determine the validity of the mining claims. This process involves conducting a detailed examination of the mining claims and the preparation of a mineral validity determination report, which would form the basis for further action. This further action could either be a contest action or a detailed appraisal to determine a purchase value of the claims should the COE decides to purchase the claims.

Text under the heading 4.1 section on Property Ownership, first paragraph has been revised to emphasize the nature of mineral property rights owned by Graymont to read: "In addition, mineral property rights that acquired possession of a portion of available federal mineral lands for the exclusive purposes of exploration, extraction and development of a mineral deposit by the staking of unpatented lode and placer mining claims and mill site claims could be acquired by the Army under protest by the claimants. This includes mining claims within the current mine permit boundary area where Graymont has demonstrated the presence of a discovery of a limestone resource, which Graymont has developed into a mineable reserve that it has been mining since 1981."

Response 92: The existing mine operating permit does have restrictions on Graymont's activities due to UXO for operational safety. Please see response to Comment 61.

Response 93:

From Graymont page 18, paragraph 4.

Alternatives 2 and 3 clearly identify ninety four (94) mining claims deemed to be in conflict with the MTARNG's ability to carry out its mission (See **Figures 2-5a and 2-5b**). It may be that only these same claims will be identified by the US COE and DA for acquisition in Alternative 1, or alternatively the number of mining claims deemed in conflict in Alternative 1 could be greater, to the extent that all mining claims in the Limestone Training Area are deemed in conflict and recommended for acquisition. Therefore, the draft LEIS describes all of Graymont's mining claims within the proposed withdrawal boundary in terms of possible conflict with military usage and mission by alternative (See **Figures 2-5a and 2-5b**). This description covers claims in both the current life-of-mine permit and those covered in Graymont's proposed expansion. Please also refer to response to Comment 67.

From Graymont page 19 paragraphs 1 and 2; referring to a section called Alternative #1, Mining and Minerals sub-section of Socioeconomic Section. Section 4.9 Socioeconomics and Environmental Justice, under Mining and Mineral Rights: This section of the draft LEIS report references material derived from the "Geology, Mineral

Occurrences and Economic Resource Potential of the Limestone Hills Training Area" (Kirk 2006). Graymont's comment implies that a dollar value to the various mineral reserves cited should be calculated as a means of valuing the deposits and by implication the value of the underlying claims. The minerals report cited above presented reserve and resource tonnage estimates for limestone and dolomite resources on Graymont's claim block and also used an analogous mining operation (by a publicly held company) to estimate a potential cash flow per ton of ore mined from that deposit as a possible estimate of potential cash flow from the Indian Creek mineral deposits. The Mineral Report (Kirk 2006) however, stopped short of and was careful not to calculate dollar values for the individual resource blocks defined, because a number of other factors that were not analyzed in the minerals report are important in defining the type of resource and its suitability and availability for economic extraction of the resource. In addition to a discussion of the nature of mineral resources and the mineral rights associated with a mining claim, some of these other factors are discussed below.

Mineral Resources are generally defined (BLM, 1996, and CIM 2005) as a concentration or occurrence, of, in this case, an industrial mineral in or on the earth's crust in such a form and quantity that it has reasonable prospects of economic extraction, providing the extraction can be accomplished with acceptable environmental risk that this and other factors allow the mining operation to be permitted. The location, quantity, grade, geologic characteristics and continuity of a Mineral Resource are known, estimated, or interpreted from specific geological

evidence and knowledge. Mineral Reserves, on the other hand, are the economically mineable portion of a Mineral Resource demonstrated by at least a pre-feasibility study. This study typically must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate that at the time proposed for mining the economic extraction can be justified and executed.

A mining claim is defined (BLM pamphlet referenced below) as a selected parcel of Federal land valuable for a specific mineral deposit or deposits, for which the claimant asserts a right of possession under the General Mining Law (of 1872 as amended). The right is restricted to the development and extraction of a mineral deposit. The rights granted by a mining claim protect against a challenge by the United States and other claimants only after the discovery of a valuable mineral deposit. Federal statute does not describe what constitutes a valuable mineral deposit; therefore the government has adopted the "prudent man rule". This rule determines value based on whether or not a prudent person would consider investing time and money to develop a potentially viable mineral deposit. The Department of Interior subsequently issued a solicitor opinion in 1933 on the issue of widespread non-metallic mineral with questionable marketability. The solicitor noted a need for a distinct showing that the mineral could be mined, removed, and marketed at a profit. In 1966, the US Supreme Court approved the opinion. The marketability test is supplemental to the prudent man rule and considers deposit economics and market entry. The claimant is required to show a

reasonable prospect of making a profit from the sale of minerals from a claim or a group of continuous claims.

The minerals report (Kirk 2006) has identified mineable reserves and mineral resources for various mineral deposit areas on Graymont's claim block based on both data provided by Graymont and by independent calculations and estimates. These include:

Mineable Reserves within the currently approved mine permit boundary area:

- 1) 13 million tons of mineable limestone reserves in the "North Ridge" area combined with reserves from the southernmost block of claims within the current mine permit boundary area to the north of the firing fan line.
- 2) 17 million tons of mineable limestone reserves south of the firing fan line but within current mine permit boundary.

Mineral Resources outside of the currently approved mine permit boundary area

- 1) 55 million tons of drill indicated limestone mineral resources in the claim block located to the south of their current mine permit boundary.
- 2) 13 to 23 million tons of inferred dolomite (Ca,Mg[CO₃]) mineral resources parallel and to the east of the limestone currently being mined (Figures 3-6 and 3-7b).

Mineral resources of limestone and dolomite have not been upgraded to a mineable reserves, nor does Graymont currently have an Operating Permit to mine resources outside of its currently approved mine permit boundary. In addition, Graymont has not yet thoroughly explored the dolomite mineral potential, evaluated its economic feasibility for mining, nor has it clearly demonstrated a suitable market for dolomite, although Graymont may be able to accomplish these tasks at some point in the future.

Given the above, it would seem reasonable to be able to calculate a value for estimated mineable reserves of limestone within Graymont's currently approved mine permit boundary area (30 million tons) using the estimated value of \$9 to \$12 cash flow per ton of limestone mined. However, it is not appropriate to estimate a dollar value for the mineral resources as they are not proven mineable reserves, and they have not been approved or permitted for mining. And certainly it is not appropriate to sum up estimated values of mineable reserves and resources to obtain a total value for the Graymont mineral resources or an implied value for the claim block.

Therefore, rather than determining dollar values for mining claims or mineral deposits, what is proposed for the LHTA is that any mineral rights (real property) associated with unpatented mining claims identified as desirable for acquisition or extinguishing of the mineral rights in areas identified as being in conflict with the military mission, be subject to a formal process to determine the validity of the mining claims. This process (as explained in the text of the draft LEIS) involves

conducting a detailed examination of the mining claims and the preparation of a mineral validity determination report. The validation process requires a determination that the claim had been legally staked and maintained, either by a record of labor, or more recently the payment of fees to the BLM. In addition, it needs to be verified that the claim was located over a viable potential mineral resource, and that the discovery of a resource is demonstrated such that was a prudent person would spend money on the claim to explore and potentially develop the mineral resource. Finally, among other things, the validation would seek to apply a test of marketability to further determine that a valid discovery had been made and that the showing of the mineral deposit could demonstrate that the mineral could be mined, removed, and marketed at a profit.

The results of the mineral validity determination report would form the basis for determining further action, which could be either be a contest action or a detailed appraisal to determine a purchase value of the claims should the COE decides to purchase the claims.

Comment 93
Continued

As an example, while the last paragraph on page 4-22 indicates that the "acquisition of mineral rights and mining claims would take the form of purchase, condemnation, donation or exchange" it does not indicate the true impact of such an action. It then states that the source of funding for such an acquisition is unknown.

A reference to page 4-53 indicates that there are 30 Million tons of mineable limestone ore reserves within Graymont's existing permit boundary and \$5 Million tons of limestone resources in the area to the south of the current permit boundary. Subsequently, those mineral reserves are estimated to be worth between \$9 and \$12 per ton in 2006 dollars. Using those number, the Draft LEIS places an imputed value on Graymont's interest that would be subject to purchase, condemnation, donation or exchange in the range of \$765 Million to \$1,020 Billion. Nothing contained in the Draft LEIS could be considered as an adequate evaluation of that impact, particularly given the fact that there is no known source of funding to accomplish such an acquisition.

The last full paragraph on page 4-21 purports to indicate that certain of Graymont's mining claims are confined "within surface danger zones." However, all of the text in the paragraph is contrary to the terms and conditions of the existing MOA which specifically indicates that there is to be no conflict between Graymont's mining claims and the SDZs. (MOA at A.8).

Comment 94

The entire explanation of the relationship between the SDZs and Graymont's mining claims contained on pages 4-23 and 4-24 must be modified to reflect the current MOA and the agreements made by the MTARNG at the time the MOA was executed.

The text in the last paragraph on page 4-25 and the last partial paragraph of 4-26 is simply wrong. The impacts because of the MTARNG's unilateral decision to change the location of the SDZs has already been documented. The contention that somehow mining would be impacted could only be correct if the MTARNG fails to comply with its legal obligation to clear the public lands of UXO. There is no legal basis for the MTARNG's position that its obligations to clear UXO exists only "up until the right of way is terminated..."

Comment 95

The text in the last full paragraph on page 4-26 is directly contrary to all representations made by the MTARNG to both the BLM and Graymont. Graymont has been assured both verbally and in writing that the clearance activity the MTARNG has conducted in the area of its mining operations satisfies the requirements of the Department of Defense Explosive Safety Board. To now state it "is actually a fairly common" that the lands previously cleared would be determined as "too safe enough for intrusive surface disturbing activities such as mining" constitutes a direct and knowing misrepresentation of what has been stated to Graymont and the BLM. The fact that under any conditions "exploration and development of mineral deposits on claims located in closed or previously 'cleared' areas could be prohibited by the land managing agent for the Army" is absolutely untrue to Graymont and we respect to the BLM as well.

Comment 96

It is totally unacceptable that the MTARNG would hide a statement of such significance to both the BLM and Graymont in a paragraph several hundred pages into the bowels of the Draft LEIS.

Response 94: Please see response to Comment 64. The addition of "bat wings" (additional safety precaution areas for possible ricochet of ordnance) in **Figures 2-5a and 2-5b** did not identify additional conflict between Graymont's mining claims and military training. Mining claims found to conflict with the training and shown in red on those figures were due to MTARNG infrastructure needs and not changes in the SDZs.

Response 95: Please see response to Comment 72.

Response 96: Please see response to Comment 72. The agencies did not attempt to hide any information regarding UXO clearance activities under Alternative 4. In fact, these discussions have come up in stakeholder working group meetings with Graymont and in discussions between Dr. Cliff Youmans and Mr. Mike Brown, Mr. John Kirkham, and Mr. Elton Chorney.

MTARNG's voluntary UXO cleanup in the Limestone Hills is unprecedented anywhere else in the nation. This voluntary UXO clearance has resulted in unique technical and operational difficulties and has cost in excess of \$7 million. MTARNG has acted in good faith and is in compliance with all state and federal environmental laws and regulations. A compliance-driven cleanup would be triggered only if MTARNG were in violation of environmental laws such as the Clean Water Act or the Safe Drinking Water Act. Even if the voluntary clearance

operations ceased, MTARNG would still be in compliance with state and federal environmental laws and regulations.

With respect to the MTARNG's "legal obligation" to clear public land of UXO, in Shepard's Causes of Action (24 COA) it is clear that MTARNG has the duty to (1) protect the public from the dangers of UXO and (2) warn the public of the dangers posed by UXO. MTARNG uses reasonable care to meet the above two duties.

Comment 196
Continued

This statement totally ignores the obligations of the MTARN under its existing Right-of-Way and clearly jeopardizes the ongoing relationship between the MTARN and Graymont.

The second full paragraph on page 4-26 must be revised to reflect the facts. As described above, Graymont's mining claims constitute interests in real property that can only be taken through due process and just compensation. If the MTARN does not strictly its UNO clearance obligations to allow Graymont to conduct its mining operations, that failure to comply with the terms of the Right-of-Way and ALMA will give Graymont the right to seek just compensation through the courts for the taking of its property.

Comment 97

At page 4-33 under the heading "Mining and Mineral Rights" there is contained what purports to be a description of the socioeconomic resources and environmental justice. The second paragraph under this heading describes in "matter of fact" terms the adverse impact that might be expected if the MTARN were to accurate the patented mining claims and the mineral rights associated with patented mining claims and thereby eliminate all mining activities. The impact described is that the BLM would lose the \$100 annual maintenance fee being paid on approximately 311 unpatented mining claims owned by Graymont.

Graymont submits that the content of the following paragraph pales in comparison to that analysis and yet is given little, if any, significance. The impact to accomplish the elimination of all mining activities would require the MTARN to compensate Graymont for the hundreds of millions of dollars in value currently owned in the Limestone Hills Area as disclosed by the MTARN's own materials. This future issue needs to be revisited and the Draft LEIS must truly describe all of the impacts that will occur in the event mining activities are eliminated and the MTARN is required to compensate Graymont for the taking of its properties.

Socioeconomics Resources Specialist Report

The content of the Socioeconomics Report is in many places inconsistent with language found at other places within the Draft LEIS and its supporting documents. This report appears to have been prepared without consulting the other persons that worked on the preparation of the Draft LEIS. Mistaken has previously been made of the inconsistencies between the amount of the reclamation bond posted by Graymont as reported in the Socioeconomics Report and the report prepared by Alan Kirk. The Socioeconomics Report contains a number of other inconsistencies that cause the quality of the report to be put in question. As an example, a detailed comparison of its content of pages 22 and 23 of the report with the content of the Alan Kirk report will identify a number of discrepancies. The content of the first paragraph under the heading "Mining and Mineral Rights" on page 22 illustrates the ambiguity that is totally unacceptable under the requirements of the Eagle Act. The document also contains references to various impact that are unique to the report and are not otherwise discussed in the Draft LEIS. As an example, we refer to the content of pages 34 and 35 under the heading "UNO Remediation Cost". The Socioeconomics Report seems to be carefully reviewed and updated to reflect the content of other portions of the Draft LEIS.

Comment 98

Response 97: The sentence referenced in this comment refers only to the impacts to BLM from the possible determination that all mining in the area would cease. Please refer to the rest of the section which goes on further to discuss impacts to Broadwater County, Graymont, the State of Montana Resource Indemnity Trust Tax, Montana vendors, retail employees, teachers, and service workers. Please also see response to Comment 67.

Response 98: Inconsistencies in the Socioeconomics Specialist Report have been identified and resolved and corrected or eliminated. The text has been revised to minimize ambiguities.

In response to the specific comment about the specialist report containing information related to various issues that are not discussed in the LEIS: The specialist report was intended to be more detailed than the LEIS. The Townsend and Broadwater County communities requested a detailed socioeconomic report during the scoping period. The agencies only carried forward to the LEIS issues that were important to the impact analysis.



SECRETARY OF DEFENSE
WASHINGTON, DC 20301-6000

NOV 17 1992

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
UNDER THE TABLE OF FURNISH (ACQUISITION, TECHNOLOGY AND
LOGISTICS)

UNDER SECRETARY OF DEFENSE (COMPTROLLER)
GENERAL COUNSEL OF THE DEPARTMENT OF
DEFENSE
DIRECTOR, ADMINISTRATIVE AND MANAGEMENT
CHIEF, NATIONAL GUARD BUREAU

SUBJECT: Land Acquisition and Leasing/Office Space in the United States

I am concerned with the acquisition of real property throughout the United States and particularly with the concentration of Defense activities in the Washington, DC area. I am familiar with and supporting the existing land acquisition, construction policy, currently reflected in memoranda from the Deputy Secretary of Defense dated September 15, 1990, and December 1, 1991. This memorandum expresses these concerns and any other concerns inconsistent with the guidance reflected herein.

Effective immediately, no major land acquisition proposals within the Washington, DC area may be made public through a request for proposals, notice of intent to perform environmental studies, request for legislation or budget line item, press release, or other official means without my approval or that of the Deputy Secretary. All previously approved or announced major land acquisitions within the Washington, DC area for which building documents have not been submitted, or if the date of the construction, may proceed and approved by me or the Deputy Secretary, after review by the Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)). In addition, no major land acquisition proposals outside the Washington, DC area may be made public, in the manner discussed above, without the approval of the USD(AT&L).

National Guard major land acquisitions which are to be funded in whole or in part by Federal funds are subject to the memorandum, Chief White House manager by the U.S. Army Corps of Engineers, dated and located in the memorandum. Renewal of existing leases, subleases, purchase, or other agreements (other than those at least being issued or negotiated) are not subject to the memorandum.

US7802 /02

Additionally, effective immediately, no proposals for relocating units or within the Washington, DC area that exceed \$50,000 in relocation costs may be made public, in the manner discussed above, without approval by me or the Deputy Secretary. Requests for approval of such relocations shall be submitted to the Director, Washington Headquarters Services (WHHS), who shall submit such requests for my approval, through USLEGATALL. All previously approved or announced relocations that have not occurred as of the date of this memorandum may not proceed until approved by me or the Deputy Secretary, after review by the USD(AT&L).

Finally, the Secretary of the Director, WHHS to administer the Civil Administrative Space Management Program within the National Capital Region, created by DOD Directive 3110.4 and specifically described in DOD Instruction 3303.5, is hereby requested to be Washington, DC area.

A major land acquisition is defined as the purchase, withdrawal from public domain, lease or grant from individuals or government entities, or any other type of acquisition involving more than 1,000 acres, or land whose estimated purchase price or annual lease price exceeds \$1 million. The Washington, DC area is defined generally as the geographic area that includes within 100 miles of the Pentagon.

The USD(AT&L) shall issue such restrictions or implementing memoranda as may be necessary to implement this policy, including a specific delineation of those jurisdictions to which it applies. In implementing these policies, USD(AT&L) shall obtain the consultation of the USGCR (Comptroller) and the DOD General Counsel before submitting actions for approval or disapproval herein.

R. A. [Signature]

cc
Chairman of the Joint Chiefs
Under Secretary of Defense (Personnel and Readiness)
Under Secretary of Defense (Policy)
Chairman, Defense Planning and Organizational
Assessment Subcommittee
Assistant Secretary of Defense
Inspector General of the Department of Defense
Director, Operational Test and Evaluation
Assistant to the Secretary of Defense
Director of Defense Agencies
Director of DOD Field Activities

CDD 4165.61, January 8, 2005

E1. ENCLOSURE 1

REFERENCES, continued

- (e) DoD 7000 14-R, "Department of Defense Financial Management Regulation," Volume 4, Chapter 6, current version
- (f) Secretary of Defense Memorandum, "Land Acquisition and Leasing of Office Space in the United States," November 17, 2002
- (g) DoD Instruction 7041.3, "Economic Analysis for Decisionmaking," November 7, 1995
- (h) Section 2204b-1 of title 7, United States Code
- (i) Executive Order 12072, "Federal Space Management," August 16, 1978
- (j) Executive Order 13006, "Locating Federal Facilities on Historic Properties in Our Nation's Central Cities," May 21, 1996
- (k) Sections 155 and 1714 of title 43, United States Code
- (l) Section 2064a of title 10, United States Code
- (m) DoD Instruction 2000.16, "DoD Antiterrorism Standards," June 14, 2001
- (n) DoD Directive 4165.61, "Intergovernmental Coordination of DoD Federal Development Programs and Activities," August 9, 1983

Department of Defense
DIRECTIVENUMBER 4165.6
October 13, 2004

USD(AT&L)

SUBJECT: Real Property

- References:
- (a) DoD Directive 4165.6, "Real Property Acquisition, Management, and Disposal," September 1, 1987 (hereby canceled)
 - (b) Executive Order 13327, "Federal Real Property Asset Management," February 6, 2004
 - (c) DoD Directive 4700.3, "Mineral Exploration and Extraction on DoD Lands," September 28, 1983 (hereby canceled)
 - (d) DoD Directive 5166.63, "Delegation of Authority Vested in the Secretary of Defense to Take Certain Real Property Actions," June 3, 1986 (hereby canceled)
 - (e) through (g), see enclosure 1

1. REISSUANCE AND PURPOSE

This Directive

- 1.1. Reissues and reissues reference (a) to provide DoD policy on the acquisition, management, and disposal of real property consistent with reference (b).
- 1.2. Cancels references (c) and (d).
- 1.3. Delegates or redelegates statutory and regulatory authorities and responsibilities relating to the acquisition, management, and disposal of real property consistent with reference (b).

2. APPLICABILITY

This Directive applies to

- 2.1. The Office of the Secretary of Defense, the Military Departments (including their Reserve components), the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense (hereinafter referred to collectively as the "DoD Components").

DoDD 4165.6, October 13, 2004

DoDD 4165.6, October 13, 2004

2.2 All DoD real property holdings except:

2.2.1. Civil works projects (unless relating to mineral exploration and extraction)

2.2.2. The acquisition and management of defense industrial plants that are governed by DoD Directive 4275.3 (reference (6)).

3. DEFINITIONS

Terms used in this Directive are defined in JCS Pub 01-2 (reference (7)).

4. POLICY

It is DoD policy that:

4.1. The acquisition, management, and disposal of real property within the Department of Defense is a function of the Military Departments acting on behalf of the Department of Defense, subject to such specific exceptions as are established by law or by direction of the Secretary of Defense.

4.2. The acquisition, management, and disposal of real property shall be performed to advance the overall mission of the Department of Defense and shall not be governed solely by the individual interests of the DoD Components.

4.3. A Military Department shall meet the real property requirements of the DoD Components utilizing real property under its jurisdiction by applying Department of Defense and its own policies.

4.4. DoD real property shall be managed in the most economical manner to reduce costs to the Department without obstructing or prejudicing current or projected defense requirements.

4.5. DoD real property that is no longer required for current or projected defense requirements shall be disposed.

4.6. Utilizing the multiple-use principle, DoD real property shall be made available for mineral exploration and extraction to the maximum extent possible consistent with military operations, national defense activities, environmental conservation and protection, and Army civil works activities.

4.7. In accordance with reference (6), DoD real property shall be managed to promote the most efficient and economic use of DoD real property assets and to ensure management accountability for implementing Federal real property reforms.

5. RESPONSIBILITIES

5.1. The Under Secretary of Defense for Acquisition, Technology, and Logistics

5.1.1. Shall have overall responsibility and oversight of DoD real property.

5.1.2. Shall establish overarching guidance and procedures for the acquisition, management, and disposal of DoD real property.

5.1.3. Is hereby delegated or re-delegated, as the case may be, the authorities and responsibilities:

5.1.3.1. Vested in the Secretary of Defense by Chapter 159 of title 16, United States Code (reference (8)).

5.1.3.2. Delegated from the Administrator of General Services relating to real property matters.

5.1.3.3. Vested in the Secretary of Defense by any other provision of the United States Code, a national defense authorization act, a DoD appropriations act, or a military construction appropriations act relating to the acquisition, management (including mineral exploration and extraction), or disposal of real property, or

5.1.3.4. Vested in the Secretary of Defense by Executive order or regulation and relating to the acquisition, management (including mineral exploration and extraction), or disposal of real property.

5.2. The Secretaries of the Military Departments shall:

5.2.1. Implement policies and programs to acquire, manage, and dispose of real property in accordance with this Directive. Such policies and programs shall specifically ensure that their Department:

5.2.1.1. Establishes and maintains for all DoD-owned, leased, licensed, and permitted properties and easements an accurate inventory to account for the real property under its management responsibility.

5.2.1.2. Holds or makes plans to obtain the real property it needs for its own missions and the missions of the DoD Components its real property supports.

5.2.1.3. Has comprehensive master plans that cover each installation under its jurisdiction.

5.2.2. Budget and financially manage to meet the real property requirements applicable to their Department.

DoDD 4163.6, October 13, 2004

5.3. The Heads of the DoD Components shall

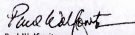
5.3.1. Determine the real property requirements necessary for the performance of the Component's mission.

5.3.2. Communicate those requirements to the servicing Military Department in a timely manner.

5.3.3. Budget and financially manage for the acquisition of real property needed to meet the Component's mission.

6. EFFECTIVE DATE

This Directive is effective immediately.


Paul Wolfowitz
Deputy Secretary of Defense

Enclosure - 1

E1. References, continued.

E1. ENCLOSURE 1

REFERENCES, continued

(c) DoD Directive 4275.5 "Acquisition and Management of Industrial Resources," October 6, 1980

(f) Chairman of the Joint Chiefs of Staff Publication 01-2, "Department of Defense Dictionary of Military and Associated Terms," current edition

(g) Chapter 139 of title 10, United States Code



Department of Defense INSTRUCTION

NUMBER 4165.71
January 6, 2005

USD(AT&L)

SUBJECT: Real Property Acquisition

References: (a) DoD Directive 4165.6, "Real Property," October 13, 2004
(b) DoD Directive 4275.5, "Acquisition and Management of Industrial Resources," October 6, 1980
(c) Joint Publication 1-02, "DOD Dictionary of Military and Associated Terms," current edition
(d) DoD Directive 5110.4, "Washington Headquarters Services (WHS)," October 19, 2001
(e) through (n), see enclosure 1

1. PURPOSE

This Instruction:

- 1.1. Implements policy and assigns responsibilities for the acquisition of real property under reference (a).
- 1.2. Redesignates various statutory and regulatory authorities and responsibilities relating to real property acquisition.

2. APPLICABILITY AND SCOPE

This Instruction applies to:

2.1. The Office of the Secretary of Defense, the Military Departments (including their Reserve components), the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense (hereafter referred to collectively as the "DoD Components").

2.2. All DoD real property holdings except:

- 2.2.1. Civil works projects (unless relating to mineral exploration and extraction)

DDO 4165.71, January 6, 2005

2.2.2. The acquisition and management of defense industrial plants that are governed by DoD Directive 4275.5 (reference (b)).

3. DEFINITIONS

- 3.1. Terms used in this Instruction are defined in Joint Pub 1-02 (reference (c)).

3.2. Military Department. As used in this Instruction and in accordance with DoD Directive 5110.4 (reference (d)), for purposes of the Pentagon Reservation, Washington Headquarters Services shall be considered a Military Department and its Director shall be considered the Secretary thereof.

4. POLICY

This Instruction implements policy established by reference (a) with regard to the acquisition of real property.

5. RESPONSIBILITIES

Pursuant to reference (a):

5.1. The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) shall establish overarching guidance and procedures regarding the acquisition of real property.

5.2. The Deputy Under Secretary of Defense (Acquisition and Environment):

5.2.1. Shall provide additional guidance and procedures for implementing DoD real property acquisition policy and this Instruction.

5.2.2. Is hereby delegated, with authority to re-delegate, all those authorities and responsibilities delegated or re-delegated, as the case may be, to the USD(AT&L) under subparagraph 5.1.3 of reference (a) that relate to the acquisition of real property.

5.3. The Heads of the DoD Components shall establish guidelines to prepare and communicate their requirements for real property acquisition to the supporting Military Department.

5.4. The Secretaries of the Military Departments shall:

5.4.1. Establish programs and procedures to acquire real property that conform with applicable law and to the policies, guidance, and procedures provided by and pursuant to reference (a) and this Instruction.

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5.4.2. Perform all needed accounting functions, including recording acquisitions, dispositions, and associated depreciation expenses, in accordance with chapter 6 of Volume 4 of DoD 7000.14-R (reference (6)), to properly report real property on the audited financial statements applicable to their Department.

6. PROCEDURES

In addition to the requirements set by statute, the following guidance applies to acquiring real property:

6.1. **Land Acquisition Approval.** Proposals for the acquisition of 1,000 or more acres of land, or land with an estimated purchase price or annual lease price that exceeds \$1 million, must be approved by the USD(AT&L) prior to any public announcement, request for proposals, notice of intent to perform environmental analysis, request for legislation or budget line item, press release, or other official notice, in accordance with Secretary of Defense Memorandum (reference (1)).

6.1.1. Any such land acquisitions within the Washington D.C. area must be approved by the Secretary of Defense or the Deputy Secretary of Defense. For purposes of this requirement, the Washington D.C. area is defined as the geographic area that falls within 100 miles of the Pentagon.

6.1.2. National Guard land acquisitions federally funded in whole or in part are subject to the requirements of this paragraph 6.1.

6.1.3. Renewals of real property agreements such as existing leases, withdrawals, permits, or other use agreements (other than those at bases being closed or realigned) are not subject to the requirements of this paragraph 6.1.

6.1.4. For purposes of this paragraph 6.1:

6.1.4.1. An acquisition includes purchase, withdrawal from public domain, lease, permit, or any other type of use agreement from individuals or governmental entities.

6.1.4.2. The acquisition value is calculated using the cost of the real property interest being acquired, without regard to offset by associated disposals.

6.1.4.3. Acquisition of real property includes acquisition of any interest in real property, including facilities.

6.2. **Economic Analysis.** An economic analysis, as prescribed by DoD Instruction 7041.3 (reference (2)), shall be used to help decide among the alternative methods to acquire real property.

6.3. **Financial Accounting.** Financial accounting for real property shall be to accordance with reference (4) to include the following:

6.3.1. Accounting for the full-cost value of assets acquired, and the asset category and type, using a full costing approach for the accumulation of all direct and indirect costs associated with the acquisition of land and/or real property structures.

6.3.2. Recording and maintaining financial and cost accounting records of the asset acquisition in accordance with accepted acquisition, receipt, policies, and practices for real property assets placed in service, for substantiating the original cost bases of the acquired property.

6.3.3. Prescribing the asset life cycle for the acquired asset based on established real property regulations and policies applicable for the functional or contractual use of the acquired property.

6.4. Location of New Real Property

6.4.1. When acquiring real property, the DoD Components shall comply with the provisions of Section 601 of the Rural Development Act of 1972 (reference (3)) and the General Services Administration's (GSA) implementing regulations and give first priority to the location of new offices and other facilities in rural areas.

6.4.2. When acquiring real property and facilities in urban areas, the DoD Components shall comply with the provisions of Executive Order 12072 (reference (4)), to conserve existing urban resources and encourage the development and redevelopment of cities.

6.4.3. When acquiring real property, the DoD Components shall comply with the provisions of Executive Order 13006 (reference (5)), to encourage the location of Federal facilities in U.S. central cities, provide leadership in the preservation of historic resources, and use space in suitable buildings of historic or cultural significance.

6.4.4. Suitability for enhanced security and force protection, reduced travel time for employees or business representatives, reduced transportation costs, environmental impact, or preference for single-use offices over split locations near one another should be considered in evaluating potential real property acquisition locations.

6.5. **Source of New Real Property.** Before acquiring real property by purchase or lease, a DoD Component shall determine that the requirement cannot be satisfied by:

6.5.1. Excess, under-utilized, or otherwise available property held by other Military Departments or Federal Agencies.

6.5.2. Excessive of existing DoD authorities or those of the GSA for the exchange of DoD-controlled real property or surplus Federal property for privately-owned property.

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6.5.3. Acquiring title to, or use of, State or local government real property by donation or use through long-term nominal cost lease.

6.6. Acquisition of New Real Property. Real property requirements that cannot be satisfied under the provisions of paragraph 6.5 shall be acquired by one of the following methods that will satisfy the DoD requirement economically with as little impact as practicable on the civilian economy:

6.6.1. Acquisition of Fee Title. Acquisition of fee title to real property, including all mineral rights and improvements, shall generally be considered in the best interest of the Government when:

6.6.1.1. The Government's requirement could not be reasonably met by acquiring a lesser interest. The advisability of acquiring fee title to property currently held under lease shall be studied in those instances where the cost to the Department of Defense of restoration or decontamination of the land exceeds the current fair market value.

6.6.1.2. A terminal date for the requirement is projected but the land would be used long enough so that any money spent for rentals and restoration would exceed 50 percent of the fair market value of the fee title.

6.6.1.3. The cost of acquiring a lesser interest approaches 75 percent of the current fair market value of the fee title, unless the requirement is of the type normally only acquired as an easement, such as roads or pipelines.

6.6.2. Leases

6.6.2.1. Leases should provide for the right of cancellation in whole or in part, at the option of the Government, giving the shortest possible notice to the lessor.

6.6.2.2. Leases shall be for "Government purposes" rather than for specific purposes (e.g., Defense-Naval-Flying-Reserve) whenever possible. If the Government plans to construct facilities, then the lease must address transfer of the facilities at the end of the lease, so as to avoid disposal issues.

6.6.2.3. Before a leasehold can be acquired, it must be shown that the activity to be accommodated is essential to an assigned mission and suitable Government-owned property is not available.

6.6.3. Withdrawal, Reservation, or Restriction of Public Land. Public domain lands may be withdrawn or reserved for specific military purposes pursuant to Sections 115 and 1714 of title 43, United States Code (U.S.C.) (reference (b)).


6.6.4. Encroachment/Pacturing Agreements. A Military Department may enter into an agreement with an eligible entity, as authorized and provided for by Section 2684a of title 10, U.S.C. (reference (f)), to address the use or development of real property in the vicinity of a military installation.

6.7. Force Protection. Regardless of acquisition strategy, the DoD Components shall apply antiterrorism standards pursuant to DoD Instruction 2000.16 (reference (m)) as a key consideration when evaluating the suitability of real property for Government acquisition.

6.8. Consultation. State, regional, and local officials at all levels shall be consulted early in the planning for real property acquisition and included in the real estate acquisition process in accordance with DoD Directive 4165.61 (reference (n)).

7. EFFECTIVE DATE

This Instruction is effective immediately.


Michael W. Wilson
Under Secretary of Defense
(Acquisition, Technology and Logistics)

Enclosures - 1
E1. References, continued